

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 269.—VOL. X.]

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[PRICE 6d.

TO CONTRACTORS, IRON MASTERS, AND MANUFACTURERS, &c., &c.—TO BE SOLD, BY PRIVATE SALE, inquire of Mr. Wm. Bratt, Leicester, the following ENGINES, MACHINERY, and MATERIALS.—One eight-horse high-pressure steam engine, with horizontal cylinder, in very excellent condition, only done nine months work. One ten horse engine, now at work, and will be sold, if required, either separate or together, a very excellent machine for making railway keys, and with circular saws attached, as well as an excellent lathe. Likewise a three-horse portable facilitating engine, in good working order, lately manufactured by Nathan Gould, of Manchester, to be sold either with or without her pumps, which she is now driving. Also cranes of all descriptions, one equal to ten tons; likewise crabs and pile engines; also ten excellent 6-inch pumps. Also 700 tons of excellent iron rails, from 34 to 36 lbs per yard—the chair rails will weigh about 34 lbs.—The T rail, are in good condition, weighing 45 lbs per yard, and in quantity 300 tons, and the remainder of the above quantity, chair rails, &c., as described above. Likewise 300 earth waggon, of the best make, and in good repair, equal to carry 24 yards.

The whole of the above materials, &c., are in convenient situations for either water or railway conveyance to any part of the kingdom.

Leicester, October 1.

S LALE WORKS.—To a Company, or Individual, desirous of OPENING A SLATE QUARRY, the opportunity of a favourable speculation is now offered on a freehold estate, in the quiet and delightful neighbourhood of Ulverston and the Lakes, in the county of Lancaster. "A. B." Newbybridge, Lancashire, will direct a person to show the premises, and will receive proposals.

TO CIVIL ENGINEERS.—A young gentleman who has completed his articles, and who can make himself useful either in the field, or office, is desirous of an engagement as an assistant with a civil engineer, but being anxious to obtain (immediate) active employ, and more practical experience in his profession, a moderate salary will only be required the first year. Address (postpaid) to "A. B." Mr. Adam's chemist, Bishop Stortford, Herts.

GEOLOGICAL MINERALOGY.—KING'S COLLEGE, LONDON.—Mr. J. TENNANT, F.G.S., will COMMENCE A COURSE OF LECTURES ON MINERALOGY, with a view to facilitate the study of GEOLOGY, and the application of mineral substances in the ARTS, on Wednesdays, the 14th of October, at 9 o'clock, A.M. The instruction will consist of a minute description of all the substances entering into the composition of rocks, and of those minerals which are also used in the arts; illustrated by characteristic specimens, and diagrams of their principal crystalline forms, stratification, &c. Further particulars may be obtained of the Secretary, at his office, King's College; or of Mr. Tennant, Mineralogist, &c. (successor to S. Mawe), 149, Strand.

T AFF-VALE RAILWAY.—Notice is hereby given, that this RAILWAY is NOW OPEN to Navigation House, within nine miles of Merthyr. The times of departure of the trains are as follows:—

Morning. Afternoon.

From Cardiff to Navigation-House 8 3

From Navigation-House to Cardiff 9 4

Conveyances will be at the Navigation-House for the conveyance of passengers to Merthyr upon the arrival of each Train.

By order of the board of directors,

JOSEPH BALL.

H ALL'S HYDRAULIC BELT, OR WATER ELEVATOR.—Extract from the public press, 29th September, 1840.—"The British Association, Glasgow, Tuesday—Section G: Mechanics. Sir John Robinson is in the chair.—Mr. Fairbairn explained Hall's Hydraulic Belt for Raising Water." Prospectus may be obtained at the offices of Mr. Webb, solicitor, 29, Great Marlborough-street, Regent-street, London.

N EW METALLIC ROPE.—NEWALL'S PATENT.—These ropes have been found, by experience, to possess very great advantages over every other kind of rope or chain for mines and railways. They are STRONGER, LIGHTER, CHEAPER, AND MORE DURABLE. Arrangements are being made for adequately supplying the demand. Parties requiring such ropes are requested to make application to the patentees, R. S. Newall and Co.

Dundee, August 21.

T O THE MINING AND SHIPPING INTEREST.—Her Majesty's Royal Letters Patent, for Improvements, has been granted to ANDREW SMITH, engineer, Mill-wall, Poplar, and Princes-street, Leicester-square, for his improved methods of making Ropes & Wire instead of Hemp, applicable to various purposes. The patent consists of improved methods of preventing oxidation, and combining Wires in such a manner that they are more flexible than any hemp rope of the same strength, and the appearance of the rope much improved. In consequence of the great strength of the material, it has been found by experiments made in her Majesty's Dockyard at Woolwich, by order of the Lord Commissioners of the Admiralty, that a two-inch Patent Wire Rope bore half a ton more strain than a seven-inch hemp rope. For instance—a hemp rope, one hundred fathoms long, used in a deep pit, weighs upwards of a ton; a Patent Wire Rope, of equal strength, is only one third that weight—hence the difference of working or winding up the two ropes is found to be a saving of three-horse power by the use of the Patent Wire Rope, and so per cent. in price. The annexed scale of tests of Hemp and Wire Rope, along with the comparative sizes and weight, will at once be apparent—this rope has been in use upwards of three years.

TEST OF HEMP AND PATENT WIRE ROPE.

Showing the comparative size and weight per fathom for equal strength. The following test has been made at the Chain Cable Proof House, at Withymoor, near Dudley, July 23, 1840, for which a certificate has been given by the proprietor of the machine.

(Signed) SAMUEL LEWIS.

Description.	Size.	Bore without Breaking.	Broke at	Second	Third	Weight per Fathom.
Flat.	inch. inch.	Tons.	Tons.	Tons.	Tons.	Ibs. oz.
4 by 1	11	114	6	3	7	6
24 by 1	7	74	4	1	4	18
3 by 8-16	2	24	2	...	2	5
Round	3-inch.	164	17	8	3	7 0
24-inch.	12	13	5	2	5 13	
18 inch.	64	7	4	1	2 13	

It will be seen by the above, that, instead of breaking short, like chain or hempen rope, it took three separate strains to break it entirely.

Further information may be obtained on application to William Fox and Co., Broomfield sole manufacturers, or Mr. And. W. Smith, the patentee, at the offices, 76, Old Broad-street, City, where specimens of the various ropes may be seen; and also at the office of Fox, Hawkins, and Hickling, Birmingham.

MANUFACTORY—MILL-WALL, POPLAR.

T HE P ATENT S AFETY F USE, FOR BLASTING ROCKS IN MINES, BARBERS, AND FOR SUBMARINE OPERATIONS.—This article affords the safest, cheapest, and most expeditious mode of effecting this very hazardous operation. From many testimonies to its usefulness with which the Manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c. &c.—

"I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, RICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

T HE INVENTORS' ADVOCATE, AND JOURNAL OF INDUSTRY, A WESTERN BRITISH AND FOREIGN MISCELLANY OF SCIENCE, INVENTIONS, MANUFACTURES, AND ARTS, is the most useful and comprehensive work of the kind published. It contains the extensive intelligence of the week; correct information on railways and steam navigation; list of patents granted and expired; specie definitions and descriptions of new inventions; reports of scientific meetings; and original papers on manufactures and the arts, with a variety of information relating to inventors and patentees. It is not only a journal of interest for the day, but forms a standard work of reference, valuable to persons engaged in scientific, manufacturing, and mechanical pursuits. Vols. I and II, nearly bound, are already published, and the 3d Vol. is now in course of publication.

Robert remarks from more than 1,000 notices of the public press.—The Inventor's Advocate is one of the most useful, practical publications, which the spirit of the times has long called for. The traits that have been practised by men who have planned and supported the ideas of others, would form a catalogue scarcely to be equalled for the infamy of its details. Many a poor but talented artist has seen the fruits of his labour snatched by another, while he himself has been reduced to poverty. It is to prevent the poor inventor that the Advocate has been established, and there are no bounds to the good it may effect. It is in very talented hands, and we have no doubt of the success."—*Brighton Herald.*—"There is no originality of thought, and a failure of execution, about this periodical, that impresses us readily; and to men of science—invention, perhaps, more particularly—it will prove invaluable."

The Inventor's Advocate, price 2s. postage free, is published weekly, by the proprietors, at the patent office, No. 192, Strand, London.

VICTORIA BUILDING COMPANY, GREAT YARMOUTH.

Capital £700,000, in 20,000 shares of £35 each.

UNDER THE PATRONAGE OF

THE RIGHT HON. THE LORD WODEHOUSE, Lord Lieutenant of the County.
Sir William Foster, Bart.
Admiral Sir George Parker, K.C.B.
Captain Sir Eaton Stannard Travers, R.N., K.H.
Sir Francis Palgrave, K.H.
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Messrs. Reynolds and Palmer. | Messrs. Worship and Son.

PROSPECTUS.

It has long been a subject of very general remark, that there is not upon the Eastern Coast of England a Bathing Place, where adequate accommodation is provided for the reception of visitors.

This is particularly to be regretted, because the Eastern Coast possesses such peculiar facilities for sea-bathing, and here the breeze from the German Ocean has such pure and invigorating properties as to render it, particularly of late years, very generally recommended by the faculty to invalids.

The want of some place on the Eastern Coast, possessing accommodations similar to those afforded to visitors at Brighton, St. Leonards, Weymouth, and other places, has at last become so generally felt and loudly proclaimed, as to lead to the formation of the "VICTORIA BUILDING COMPANY," and the town of Great Yarmouth has been fixed upon as the site which possesses the greatest facilities for the object contemplated.

To those who are unacquainted with Great Yarmouth, it may be necessary to detail the great natural and other advantages, which have caused it to be thus selected. Great Yarmouth is situated at the eastern extremity of the county of Norfolk, and is only separated from the county of Suffolk (into which, indeed, the Parliamentary borough extends) by the River Yare. It is distant 124 miles north-east of London, and only eighteen miles east by south of the ancient, populous, and wealthy city of Norwich. It possesses an immediate and direct carriage communication with London, C.chester, Ipswich, Lynn, Bury St. Edmund's, Cambridge, Grantham, Leicester, Coventry, Birmingham, and other towns; fine steam-vessels are constantly plying to and from London, Hull, and other ports, as well as up the River Yare; and the Loth, Dundee, Aberdeen, and Inverness steamers, are constantly passing through Yarmouth Roads, where, in fine weather, they land and take up passengers.

The old town is closely built in the form of an irregular parallelogram, and contains within the walls (by which, with the river, it was originally bounded on all sides), an area of about 125 acres, and a population (including the suburbs) of upwards of 25,000 souls.

It has long been celebrated for its noble quay, which extends upwards of a mile in length, the south part being planted with trees, and forming an agreeable promenade. The principal church, which is dedicated to St. Nicholas, is one of the largest parochial edifices in the kingdom, and exhibits some good specimens of the different modifications of Gothic architecture. An additional church has recently been erected, and dedicated to St. Peter. There are also handsome episcopal chapels, one dedicated to St. George and the other (in Southtown) to St. Mary; a catholic chapel, and many other places of religious worship.

The market is exceedingly spacious, containing an area of nearly four acres; it is abundantly supplied with provisions, and especially with poultry, for which the county of Norfolk is so justly celebrated. The fish market is plentifully supplied with mackerel, herrings, turbot, soles, whiting, red mullet, lobsters, and shrimps, all of which are found here in the greatest perfection.

The town possesses a public library, theatre, assembly-rooms, public baths, and gardens, where horticultural meetings are held, and other places of general resort. To the south of the town are the South Dene, an open and level piece of ground, covered with verdure, forming a beautiful peninsula, bounded by the sea on one side and the River Yare on the other, extending about two miles, and terminating at the harbour's mouth, where there are piers on either side jetting into the sea. The greatest ornament to these Dene is a beautiful Ruted column, 144 feet high, designed by Wilkins, erected to the memory of Lord Nelson. Here is also a noble edifice, enclosing a square surrounded by a plaza, erected in 1839 for a naval hospital, but now converted into barracks. To this hospital several hundred sick and wounded men were brought after the battle of Waterloo. On these Dene the races are held annually.

The environs of Great Yarmouth do not possess the romantic scenery to be found in the south and west of England, but the country is richly cultivated, and there are many pleasant drives to the adjacent villages of Ormesby, Somerton, Blundeston, and Tritton. Within a few miles, on the Suffolk side, are the very extensive remains of a Roman station the Garlaniorum of the ancients, so called from its situation at the mouth of the River Garonne, or Yare, which was occupied by the stable ion horse, and within a like distance, on the Norfolk side, are the ruins of Caister Castle, formerly a most sumptuous castellated mansion, erected by Sir John Fastolf soon after the battle of Agincourt.

The counties of Norfolk and Suffolk have long been celebrated for the quantity and excellence of the game with which they are stocked; several packs of hounds are kept in the two counties, and a subscription pack of harriers in the immediate neighbourhood of Great Yarmouth. Snipe shooting may be had in the greatest perfection. "The Broads" (so peculiar to East Norfolk) abound with fish. The Rivers Yare, Bure, and Waveney, with a large expanse of inland water, called Breydon, afford every facility for boating.

What, however, will always render Great Yarmouth most attractive as a watering place, is the firm and sheltering beach, usually free from shingle, which permits of bathing with ease and safety at all times of the tide; and here the ocean possesses a freshness and buoyancy not met with on the western and southern shores of the kingdom. A lofty, twenty-one foot in width, and extending 450 feet in length over the sea, affords a delightful promenade. But above all other points of attraction, is its unrivalled sea-view, many vessels passing through Yarmouth Roads than are known to traverse any other spot on the globe; upwards of 500 vessels have occasionally been seen together at anchor in these roads, when detained by contrary winds; and during the fishing seasons the ocean is crowded with several hundred fishing-boats—presenting a scene infinitely diversified and exceedingly interesting.

The annual regatta is usually well attended; large open boats, remarkable alike for their safety, beauty, and velocity, are constantly at the jetty, well manned, for the purpose of hire; and excursions are frequently made to Lowestoft, Southwold, Cromer, and other adjacent places. Here, also, during the autumnal months, that singular phenomenon, the luminous appearance of the ocean, may be frequently observed.

Owing to the general salinity of the air, Great Yarmouth has been very seldom infected with epidemic diseases, and is remarkable for the longevity of its inhabitants—many instances being on record of persons who, within the last few years, have attained the age of 100 and upwards.

Great Yarmouth, therefore, viewed as a bathing place, unquestionably possesses very considerable attractions to those who are in search of pleasure or health, and it may with reason be asked—Why has it been so long without possessing these advantages which are now demanded? The answer is, that the whole of the ground surrounding the old town was held by the corporation in fee-farm—each party who had been built upon especially the ground lying immediately between the town and the sea, were let on leases of twenty-one years, without any covenants or severals, but with a covenant restricting the height of the buildings to twenty feet.

Recently, however, the option of purchasing the freehold of the premises under lease has been given to the public, and, in consequence, houses of a larger description have been built; but no general plan laying, in the first instance, has followed, it is now impossible that this part of the town can ever be greatly improved.

OBJECTS OF THE COMPANY.

The "Victoria Building Company" having, partly by purchase, and partly by a liberal arrangement with the Town Council sanctioned by the Lord of her Majesty's Treasury, obtained ground on the South Dene, possessing a frontage of upwards of a quarter of a mile towards the sea, and of an adequate depth, intended to form a spacious Esplanade, close to high-water mark; and to lay out the rest of the ground in streets and squares, so as to give to each house, as far as may be practicable, a view of the sea, and to call the whole "Victoria," in honour of her Majesty the Queen.

The principal houses will be built on a large scale, fitted with baths and other conveniences, and furnished for the reception of families of the highest rank.

Many of the houses will face the south, and will be more particularly adapted for the reception of invalids, and for winter residence.

An hotel and a limited number of houses will immediately be erected by the company; but it is not intended to allow any shops or sale rooms to be opened.

The profits of the company will be derived from the letting of the buildings erected by the company, the sale of houses, ground-rents, and other incidental sources.

REGULATIONS AND CONDITIONS.

The capital of the company to be £700,000, divided into 20,000 shares of £35 each.

The directors to have power to commence business before the whole of the capital stock shall have been subscribed, or the deposits paid on the shares allotted, but to proceed with the buildings so far only as the subscribed capital will allow.

A first payment of £2 per share to be made as soon as the shares applied for shall be allotted, and the remainder, or so much as shall be required for the operations of the company, by instalments of £2 per share; and an interval of three months to take place between each call, and notice of each call will be given by public advertisement; but each shareholder to have the option of paying up at once the full amount of his shares.

The shares will be transferable as personal property.

The liabilities of the shareholders will be limited.

The management of the affairs of the company (subject to the conditions of the Deed of Settlement) to be intrusted to a board of directors, resident at or within ten miles of Great Yarmouth, consisting of not

SPECIFICATIONS OF RECENT PATENTS.

[From the "Inventor's Advocate."]

Sir Josiah John Guest, of Dowlais Iron works, Glamorgan, and Thomas Evans, same place, agent, improvements in the manufacture of iron and other metals, Sept. 30.—Claim first.—The use or application of steam forced in contact with the melted iron, in puddling and refinery furnaces, for the manufacturing the same.

Claim second.—The use of steam in the process of melting and manufacturing alloys of copper and iron.

Claim third.—The use and application of steam to the fluid cinders to produce paste, and the use and application of the said paste.

Jets of steam are introduced into the ordinary puddling furnace, close to the iron while in a state of fermentation; the steam is to be generated in the chimney of the furnace, and is brought very near to the surface of the melted iron, by sliding telescope tubes made of wrought-iron; the pressure should be about 15 lbs. to the inch. During the above process, steam may be introduced upon the fluid cinders, until they become of the consistency of thick paste; then let the paste be applied with a rake to any cavities in the bridge, in order to keep the sides, back, or bottom of the furnace from being burnt; this will also be found to keep the iron quite clean and free from dirt.

In the refining furnace, after the pig-iron is melted, jets of damp steam should be introduced by the same aperture as the blast, through four pipes of half an inch diameter, with a pressure of 20 lbs. to the inch.

It is better for the steam here to be generated in the chimney of the furnace, but it may be used from a boiler, and is employed in precisely the same manner in melting and manufacturing alloys of copper and iron, and tin and iron.

William Neale Clay, of Flimby, Cumberland, improvements in the manufacture of iron, Sept. 30.—Claim first.—Mode of manufacturing wrought or malleable iron from iron ore, by combining with it 28 per cent., or more, of carbonaceous matters.

Take rich iron ore, or iron stones, or any other material containing 45 per cent., or upwards, of iron, and have the lumps well broken by millstones, or any other suitable means, till it is reduced to a state capable of passing through a riddle, or screen, with thirty-six meshes to the square inch; to 100 parts of this add from 30 to 40 parts of coal, slack, coke, charcoal, peat, anthracite, or any other carbonaceous matter, broken to the same size; let them then be well mixed, and put into an ordinary puddling furnace, in a suitable state for receiving pig or scrap iron; let the combination be well stirred every five minutes, until it assumes the appearance of becoming metallic, by the hottest parts combining together; the length of time required for this must depend upon the heat of the furnace; when the metallic parts are combined, let it be-halled, or conveyed to the hammer, or squeezers, to be operated upon in the usual manner.

Claim second.—The manufacture of malleable or wrought-iron from ore, by combining with it 28 per cent. of carbonaceous matters, with pig or scrap iron. The inventor wishes it to be understood that these improvements are confined to the combination of carbonaceous matters with the ore, in proportions of not less than 28 per cent.

I. Thomas Smedley, of Holywell, Flint, North Wales, gentleman, improvements in the manufacture of pipes, tubes, and cylinders, Sept. 30.—These improvements consist of manufacturing tubes, pipes, and cylinders, without the employment of any apparatus for drawing the same.

Claim first.—Mode of combining three, four, or more bowls, or rollers, for the purpose of making, pressing, and elongating tubes, pipes, and cylinders, without seam or joint, and without the use of a drawing bench.

On each end of a driving shaft is fixed a bevel wheel; this shaft is moved by any adequate power, and gives a rotary motion to two perpendicular shafts, by means of the bevel wheels working into mitre wheels, fixed on the ends of those shafts; these again give motion to two other shafts (which are fixed in a rectangular position to them), by means of spur wheels and mitre wheels working together; on each of these four revolving shafts is fixed a bowl or roller, and they are placed so that by the rectangular position of the shafts the segments formed on their surfaces may meet and form a circle, so that on motion being given to the driving shaft, the four rollers will revolve, and all the gearing being of the same proportions, the movements will be equal. The tube or cylinder is then passed on a mandrel of a peculiar construction, into the circle formed by the four rollers, and by the revolution of these alone, instead of the drawing bench as usually employed, the tube or pipe will continue to pass to the required length, thereby improving the quality of the metal, or alloy, of which the tube is composed, rather than deteriorating it, as is the case when the drawing bench is used, in consequence of the great strain which must be applied. With reference to obviating the joint, or seam, the tubes should be cast in short lengths, and of a suitable size and thickness, and then passed through several series of the revolving bowls or rollers, each series gradually decreasing in size, until the tubes are of the required length and thickness.

Claim second.—New mode of constructing the mandrel, on which tubes, pipes, and cylinders are made.

This is simply by constructing the mandrel of three longitudinal pieces, so that by removing the centre, the remaining pieces may easily be withdrawn.

The inventor wishes it to be understood, that he does not confine himself in this invention to fusing bowls or rollers, as in some cases, i. e., for the construction of large cylinders, &c., more may be required and employed.

James Stead Croslan, Holbeck, Leeds, York, engineer, improvements in locomotive, and other steam-engines, Oct. 1.—Claim first.—For the construction and arrangement of an endless chain, as a substitute for the crank motion in rotary and other engines.

A long steam cylinder is provided with suitable slide valves, and slide valve boxes to the piston; three parallel rods are fitted with their outer ends keyed to the cross-head of the engine; there is a strong endless chain working on two leather pinions, to one link of which there is a projecting boss, this is fitted to the cross-head, which is guided parallel by guide rods, so that on its forward motion the boss is dragged forward, and at the end of the stroke it slides down a parallelogram and passes the centre, and on the steam being admitted to the other side of the piston, the cross-head is drawn backward, and with it the boss, thereby producing a revolution of the two shafts. It may be necessary to remark, that the number of piston-rods is not confined to three, as in some instances more may be required.

Claim second.—For the construction and arrangement of slide valves and expansion gear, as hereafter described.

The steam is admitted at one end of the cylinder by the cross-head moving a boss, which slides on a guide-rod, and at the other end by the cross head moving two levers which have double forks at their other end clasping the guide-rod of the cross-head.

For the expansion gear, the steam is shut off by levers, to each of which is adapted a roller, to enable the lever to slide easily over an elliptical bar; to the cross-head are adapted square rocking spindles, on which are keyed tongue levers, so that on the tongue levers being at one end of the rocking spindles, the full expansion is applied, and on their being at the other end of the rocking spindles no expansion is applied.

Thomas Stirling, of Limehouse, in the county of Middlesex, improvements in the manufacture of fuel, Sept. 30.—Claim.—The mode of manufacturing fuel from small coal, tar, and clay, and afterwards submitting them, when in moulds, to a considerable degree of artificial heat.

This is a new species of fuel, which is composed of the following materials—100 lbs. of vegetable tar, 300 lbs. mineral or coaltar, 2000 lbs. of small coal, which should pass through a sieve, having six holes or meshes to the square inch, and may be mixed with water to the consistency of tar, of which sufficient 100 lbs. is required. It is mixed in the following manner—the tar is boiled in a vessel, and the solution of clay poured into it; the boiling matter is then run into another pan placed over a furnace, and the small coal is intimately mixed with it. The fuel thus far made, is put into moulds of the size required; rectangular-shaped moulds, similar to brick moulds, are preferred; several of these may be joined together. The moulds are then placed in an oven or kiln, heated from 250 to 300 degrees Fahrenheit; they are allowed to remain there from one hour to one hour and a half, when they are taken out and allowed to cool, and the fuel is then removed from the moulds, and is fit for use.

George Richards Elkington and Henry Elkington, of Birmingham, improvements in casting, covering, and plating metals, Sept. 30.—Claim first.—The mode of coating copper and its alloys with silver, by the process of fusing silver upon the surface of the metal, whereby the coating of silver is adhered or united with the surface of the coated metal.

Let the metal first be silvered in the usual manner, then submitted to a hot solution of nitrate of silver, concentrated according to the required substance of the coating; it should be then heated to nearly a red heat to expel all the acid; a quantity of calcined borax is then fused in an iron pot, and a temperature entered until it is of a sufficient heat to melt silver; into this, the metal that has been coated is immersed, and moved quickly round. The process will be complete when the borax runs off the article on its being taken out of the pot. The coated article may be boiled in diluted sulphuric acid (in proportion of one part acid to twelve parts water), to remove any borax that may remain, and, then after being annealed, boiled in diluted sulphuric or tartaric acid to improve its surface.

Claim second.—The methods of coating metals with silver; first, by the use of oxide of silver, dissolved in prussiate of potash, soda, or any other analogous salt, or in pure ammonia. Secondly, by the use of the above, in connection with a galvanic current. Thirdly, by the use of a solution of silver in an acid, so as to constitute a neutral salt in connection with a galvanic current.

Let the metal first be silvered, and then for a thin coating let it be immersed

in the following solution while hot:—To three pounds of prussiate of potash dissolved in water, add five ounces of silver in oxide, and then boil them together; if a thicker coating be required, the mixture should be allowed to cool, and after the article is immersed, it should be exposed to the action of a galvanic current, either by contact with a bar of zinc, or other electro-positive metal, or by two cylinders closed at the bottom, the outer one of glazed, the inner one of unglazed earthenware; let the space between them be filled with a solution of chloride of sodium; into this, a cylinder of zinc is placed with a copper wire soldered to it, so as to bend over and dip into the inner vessel, which contains a solution of silver, and in which the articles to be coated are placed, one part being kept in contact with the copper wire. Another method is to substitute for the above solution a solution of silver reduced by an acid to "neutral salts," and then acted upon as before, by the galvanic current.

Claim third.—The methods of coating or plating metals with gold, first by the use of metallic or oxide of gold, dissolved in prussiate of potash, or any other soluble prussiate, or any analogous salt; secondly, by combining the use of the above with the application of a galvanic current.

To two pounds of prussiate of potash, dissolved in one gallon of water, add two ounces of oxide of gold, or metallic gold, in fine division; boil them for half an hour; and for a thin coating let the metal be simply immersed; for a thicker coating, let it afterwards be exposed to the action of a galvanic current, in the same manner as in coating with silver.

Claim fourth.—The mode of coating iron with other metals, by first cleaning it in a peculiar manner, as a preparatory process.

Let the iron be first freed from all grease, and kept in an electro-negative state during the action of the cleansing acid—this is composed of one part sulphuric acid, and sixteen parts water, into which the iron is immersed, until a black scale of oxide is detached from the surface, which will then be bright; the iron is then to be immersed in the following solution, which should be boiling, and in a brass vessel:—one pound of sulphate of copper, three pounds of water, and two ounces of diluted sulphuric acid; as being taken out, it will be thin, but soon coated with copper, and may then be acted upon in any way previously described in these improvements.

AMERICAN PATENTS.

[From the "Journal of the Franklin Institute."]

For an improvement in steam-boiler furnaces; Lucien Maillard, city of New York.

This improvement, it is said, "will give an economy of more than one-third of the consumption of fuel, by the combustion of dead steam"—a gift, certainly, of no small importance. By dead steam, is meant that which has performed its office in the cylinder, and this is conducted through suitable tubes into hollow grate bars, under the furnaces of high-pressure boilers, whether of locomotive or other steam-engines. From the hollow bars the steam is to enter the fire through numerous holes in them, made for that purpose.

Claim.—"I do not claim as my invention the introduction of waste steam into, or amidst, the red hot incandescent coals in the furnace for the purpose of increasing combustion by its decomposition, this having been previously done, but not in the manner in which I effect it. I therefore claim as my invention, and desire to secure by letters patent, the introduction of waste steam on, or amidst, the red hot incandescent coals, by means of the arrangement of conical tubes, and hollow perforated bars, on which the coals rest, in the manner described."

There are several grave questions connected with the invention that is the subject of this patent, which we have not time to discuss, but which we will not entirely dismiss. To the theory that the water is decomposed, and aids the combustion in consequence of this decomposition, we have not yet, and do not now, give our assent; but this is a matter of no importance practically, provided the combustion is actually rendered more efficient by its agency, which we do not dispute. Steam, and water, have been carried into hollow perforated bars, with the same view as that above declared, but, so far as we are informed, the plan has been universally abandoned. The bars must, necessarily, when in contact with the fire, be frequently out of order. In locomotive engines the waste steam is wanted to increase the draught in the chimney, and if diverted from this object, and applied elsewhere, a balance of accounts will have to be struck, and this, we apprehend, would be against the sending the waste steam into hollow bars, so far as locomotives are concerned.

For an improvement in applying heated air to furnaces, economising fuel and consuming smoke; Frederick P. Dimpfle, city of New York.

By the improvements in the supplying of heated air to furnaces which form the subject matter of this patent, we are informed that "a great saving is effected in the quantity of fuel employed; the smoke and combustible gases which ordinarily escape combustion are wholly or in great part consumed, and the sparks given off by the fuel are arrested."

A good general idea of the construction of the apparatus may be obtained from the claim, which is as follows, "What I claim as my invention, and desire to secure by letters patent, in the above described apparatus, is the employment of a box, or receptacle, constructed in the manner set forth, and which to contain a stratum of pebbles stones, or of any other material which will leave interstices through which air may be forced to pass, but which will have the effect of producing pressure within the furnace, which is supplied with air from a suitable blowing apparatus, and in which furnace the air is to be forced into a closed ash pit, the whole being combined and arranged substantially in the manner set forth."

"I also claim the mode described, of forcing in with the atmospheric air a portion of that which has previously passed through the fire, by which means it is made to enter, in consequence of the pressure to which it is subjected. I claim, likewise, the manner of shutting off the draught from the blowing apparatus, by the opening of the door for feeding the fire, as set forth."

For an improvement in the blacksmiths' tuyere iron; John Shugert, Elizabeth, Allegheny county, Pennsylvania.

The patentee says, that "the improvement which I am about to describe is on the tuyere-iron, for which I obtained letters patent of the United States, dated March 31, 1836, in which the blast from the tuyere-iron entered the fire at an inclination, say of 45 deg. This elevation of the blast was found to produce beneficial results, but some inconvenience was experienced from the tendency of the coal to rise, or fly up, when the blast was given with considerable force, through a round nozzle—an inconvenience which is effectively removed by my present improvement, which is productive also of other advantages." This improved plan consists in making the opening in the forge back oblong, instead of round—say from two to four inches in length, and from three-eighths of an inch to an inch in height—the tube leading to this opening is to assume the proper form as it approaches it, and it may be divided horizontally, by one or more partitions, which will prevent the falling in of coal through the openings. The claim is to the oblong form given to the openings, in combination with the elevated blast.

ELECTRICAL TELEGRAPH.—Professor Wheatstone, the inventor of the electrical telegraph which is now at work on the Great Western Railway, is at present in Brussels, where he has been trying the new improvements he has introduced in his apparatus. Mr. Wheatstone has succeeded in so simplifying his apparatus, that he has reduced the number of wires employed to two. They are covered with caoutchouc, and inclosed in tubes; the principal thing to be attended to, is to protect them from wet.

The great objection which had been previously made to these telegraphs was the difficulty of repairing the wires in case any should be broken or damaged, as it was supposed it would not be possible to tell where the fracture was. This difficulty has now been obviated by means of a small carriage moved along the line of the telegraph. The place where the defect lies is indicated by a magnetic needle, which changes its position the instant it arrives at the part where the connection is broken. Professor Wheatstone conceives that it is possible to communicate with his apparatus between Dover and Calais. He has been repeating his experiments at the Brussels Observatory in the presence of many scientific men. We shall mention the results of these experiments in our next Number.

COLOURING MARBLE.—The art of colouring marbles, so as to give them the richest and most beautiful tints, has been recently carried to great perfection in Italy, by M. Ciceri. A solution of nitrate of silver penetrates into the marble, and produces a deep colour. A solution of nitrate of gold penetrates about the 1/16th part of an inch; it gives a beautiful violet-purple. A solution of verdigris gives a clear green; solutions of dragon's blood likewise penetrate marble, giving it a beautiful red. It is penetrated to a considerable thickness by all alcoholic tinctures of colouring woods, such as Brazil wood, Campeachy, &c. The alcoholic tincture of cochinchina, mixed with a little alum, produces a very beautiful bright colour, which penetrates far into the marble, and makes it resemble the red marble of Africa. Opcimento dissolved in ammonia quickly dyes marble a yellow colour, which becomes more vivid the longer it is exposed to the air. The solvent which causes the colouring matters to penetrate farthest into the marble, is wax. Verdigris, which has been boiled in wax, and applied to marble quite hot, penetrates to the extent of nearly half an inch, and produces a fine emerald.

MUNICH RAILROAD.—The railroad from Munich to Augsburg was opened for an experimental trip on the 1st instant, the directors and other persons connected with the undertaking having made the passage in an hour and three quarters. The usual passage will be accomplished in forty-eight minutes.

THE MINING JOURNAL,

PROCEEDINGS OF PUBLIC COMPANIES.

REDMOOR CONSOLIDATED MINING COMPANY.

The general and special general meeting of the shareholders of this company was held at the offices, 44, Finsbury-square, on Monday, the 12th inst. JOHN MURRAY, Esq., in the chair.

The advertisement convening the meeting having been read, the following report was submitted:

REPORT.

The managers of the company have found themselves under the necessity of calling a general and special meeting of the shareholders, in order to present the report of Captain Rowe, Captain Harpur, and Mr. Peter, as to the present state and future prospects of these mines, and to consider, in consequence, the expediency of increasing the capital of the company. The following is the report drawn up by the before-named gentlemen:—

Report of Captains' Rowe and Harpur, and Mr. Peter.

Preparatory to your annual meeting of the shareholders of these mines, which will be held in London on the 12th instant, I beg leave to hand you a report on behalf of myself, Captain Harpur, and Mr. Peter, of what has been done since the last general meeting, and what the present prospects are. First, respecting the south mine, which was suspended in March last, we sunk Johnson's engine-shaft 1 fms. 4 ft. 6 in., which completed said shaft to the eighty fathoms level. We then extended that level north and south on the lead lode about twenty fathoms, and found its average size about one foot; it might have been taken away for about 8d. out of the £1. In opening upon the lead lode, at this level, we passed through Johnson's tin and copper lode, which we found to be split into several minuscule branches, mixed with copper ore and tin; but the water being too powerful for the engine, and causing thereby so many breakages, to a great extent of flat-rods, as to preclude the possibility of making anything like a trial of the eighty fathom, either on the silver-lead, or Johnson's tin and copper lode, we were compelled to suspend operations there. We also completed Johnson's whim-shaft to the seventy fathom level, and drove that level north, on the lead lode, twenty-five fathoms three feet, and south about eight fathoms. This ground, on an average, might have been taken away at about 10s. out of the £1.—in fact, several fathoms were spent from the back at a loss tribute. At the sixty fathom level we drove about twenty fathoms north, and the ground was worked at a tribute of about 11s. out of the £1. A great number of fathoms of ground was spent in sinking winzes, and exploring on the lead lode, before what is here noticed. During the last three months which that part of the mine was worked, our returns paid about from one-half to two-thirds, as a proportion of the cost, and it is our decided opinion, that the machinery, that is the engine, been on Johnson's flat-rodd engine-shaft, instead of working by virtue of flat-rods, to keep the water, the mine would have done much better—not at all unlikely to have paid cost, and stood a great chance of becoming a profitable concern. This suspension, to us, is a matter of great regret, considering, as we do, that the south mine was by no means fairly tried, and which was caused entirely by the inadequacy of our machinery. At your last meeting we recommended some work to be done on the lead lode, still further south, towards Hayes Valley, we found the lode in that spot, at that time, by testing, of a very propitious character, but in still going further south in the valley, we found some difficulty in ascertaining its rate of direction. We, however, determined on boring in what is termed a hobby, and then to commence driving an adit west, at a depth of about nine fathoms, and after driving twenty-nine fathoms, we have, within the present month, found the lead lode, the size of which is about four inches wide, of a spar and gossan nature. The ground is a slate-like; by extending about twenty fathoms north, on the lead lode, we shall intersect a large east and west lode. We suspect it to be one of the Wheal Brothers lodes, we strongly recommend the intersection of that lode, by driving as we are at present—north on the silver lead lode.

North Mine.— We drove at the twenty fathom level, on the silver lead lode, only about seven or eight fathoms on its course, which we found produced rich stones of ore, but nothing regular. At this level, also, we drove about twenty-four fathoms on the great south copper lode, in which we found some rich bunches of copper ore, and some at the back of this level has, and is still, being taken away at £1. out of the £1. The appearances here are of the most encouraging nature, and it appears, if this lode, and the others found in the cross-cut, are worked to the same depth as the parallel lodes of Holmbush, where the ore was first discovered—viz., at the fifty and sixty fathoms below the adit—there appears equal chances of profitable results. Our former apprehension being removed, that the lodes were destroyed by the elvan course, which was intersected at the twenty fathom level, and the appearances then warranted (when inspected) such a suspicion, but in sinking to a thirty fathom level, we found, by its rapid declination northward, that it has entirely left the strata in which the lodes pass, and the consequence has been, that two other objects (as copper lodes) have presented themselves unexpectedly at the thirty fathom level cross cut, and thereby materially altering our views in favour of the north part of this mine. We have sunk a winze also in the bottom of this level, on the great south lode, as deep as we can get, for water—say eight fathoms. This has enabled us to set a pitch in the bottom of that level—price, we calculate, as tribute, will be about 10s. out of the £1.; another pitch, which is now ready, will be set to-morrow by the same rule. At the thirty fathom level we have driven a cross-cut, thirty-five fathoms, in which we cut two other lodes, besides the primary object—viz., the great south lode—we have opened on the latter about fourteen fathoms, and the prospect here holds out encouragement to proceed deeper. In driving east on that lode we have crossed a spit of the silver-lead lode; it is about six inches wide, and will produce rich rock work for lead. We have not yet begun to open on its course,

the number of about 1000; that since the last meeting the liabilities had been reduced about 200*l.*, being now about 880*l.*; and that the assets, including a small parcel of ore, Hague's machinery, &c., amounted to about 600*l.*, so that it became necessary for the shareholders to place funds at the disposal of the directors for the further prosecution of the mine—on which it was unanimously resolved that the directors be empowered to call on the shareholders for the sum of 1*l.* per share (which will make the full sum of 5*l.* per share), at such times, and by such instalments, as they may see fit, the meeting recommending that the directors do call for the said 1*l.* per share by instalments of 5*s.* each.

Mr. BARKER said that he had been requested by his friends to move that a letter received by the secretary, from a Mr. Stevens, of Bodmin, be read to the meeting; to which the CHAIRMAN said he had placed it by his side, in case it might be required.

The letter was read, and stated that the company's interests at the mine were neglected by the agents; and which was supported by Mr. BARKER, who contended that things were not carried on in that proper way at the mine in which they were when his friend Captain Harpur had the management; he said he would give one thing, for instance, to show that Captain Clymo was not the man for them, for (said he) did he not the other day cause the mine to be half filled with water, when he cut the lode at the forty fathom level, and was that a proof of his ability as a miner?

Mr. NINNIS said the meeting could clearly see that the worthy shareholder was quite uninformed in respect of mining matters, and he would also show that he was as misinformed as to the character and ability of the company's agent, Captain Clymo, to whom the directors had intrusted the management of their affairs at the mine; and this Mr. Ninnis did in a manner quite convincing and satisfactory, as so expressed by the meeting, and without going into personal matters connected with the characters of those who had brought the accusations against the company's present agents, much of which was in the knowledge of many of the shareholders present, and alluded to by one or two of them.

On a question from a shareholder, as to the forfeited shares, the CHAIRMAN stated that the directors were advised that the same could not be restored without the consent of every shareholder.

General expressions of confidence in the directors were shown, and thanks having been unanimously voted to them, the meeting adjourned.

LONDON CEMETERY COMPANY.

A numerous special general meeting of the proprietors of the above company was held at the company's offices, Moorgate-street, on Tuesday, the 13th instant, for the purpose of declaring a dividend, and confirming a resolution of the directors, declaratory of the forfeiture of certain shares.

The Rev. Dr. RUSSELL in the chair.

The CHAIRMAN, after briefly stating the purposes for which the meeting had been convened, called upon the secretary to read the report of the directors:

REPORT.

The report stated that the directors had convened this special general meeting, in compliance with a resolution passed at the last annual meeting. They had not, indeed, convened it exactly at the time intended, for the expected consecration at Nunhead falling just upon the limit of the specified period, they could not appoint an earlier day with any certainty. But the delay had put it in their power to congratulate the proprietors on the completion of improvements in the drainage and level of the roads, by which easy access was now given to every part of the Highgate grounds, and on the addition of utility and beauty that had resulted from the taking in a considerable portion of unconsecrated land, all now properly levelled, and on part of which convenient catacombs had been erected. This delay had also put it in the power of the directors to congratulate the proprietors on a second cemetery begun, consecrated, and in which an interment had already taken place, within the short period of little more than six months. The spot at Nunhead would commend itself to every one who viewed it, but the directors trusted that, with returning spring, their labours also would be found to have been well bestowed upon it, and that the proprietors would speedily obtain abundant remuneration for their outlay, through the approbation of the public. The declaration of a dividend had been rather pressed at the last annual meeting, but the directors were not then in a condition to propose any sum, and perhaps there might be some advantage derived were a declaration deferred till January next, but \$178*l.* 12*s.* 9*d.* having been received for burials at the Highgate Cemetery, the directors had judged that it was inexpedient to meet the wishes of the proprietors, and they proposed that a dividend be now declared of 6*s.* on every share issued to September 29, 1840—a dividend which the directors felt confident would be fully maintained, and, as the present unproductive capital came into operation, increase. The directors would, with great reluctance, have called upon the proprietors to confirm the declaration of any forfeiture of shares, and it gave them pleasure to communicate to them that the shares of which forfeiture had been declared had been reclaimed by full payment, with interest. No declaration of forfeiture, therefore, remained to be submitted to the meeting for confirmation.

Major BOILBAU said he had great pleasure in moving that the proposition contained in the report—viz., the declaration of a dividend, be approved of.—Mr. J. K. PYNE seconded the resolution, which, after a few words from Mr. R. YOUNG, highly complimentary of the valuable services rendered to the company by the reverend chairman, was carried unanimously.—It was then decided that the dividend should be payable at the office in Moorgate-street, between the hours of ten and four, after Thursday, the 5th of November next.

The Rev. H. J. KNAPP, in moving a vote of thanks to the directors, touched upon the utility of cemeteries, and said he was happy to find that the public mind had begun properly to appreciate it.—The vote was given with acclamation, and the thanks of the proprietors having been awarded to the reverend gentleman in the chair, the meeting adjourned.

DONCASTER AND NORTH MIDLAND RAILWAY.

A meeting was held yesterday week, at Swinton (agreeably to previous arrangement), to promote the formation of a junction railway from Doncaster to the North Midland line.

The MAYOR of DONCASTER in the chair.

Mr. VICKERS briefly explained the correspondence between the corporation of Doncaster and the directors of the North Midland Railway, which had led to this meeting; and the Mayor stated the prevailing feeling of the town over which he presided, in favour of a railway communication between that town and the North Midland Railway.—On the motion of Mr. Alderman Clark (of Doncaster), a resolution was then unanimously passed, to the effect—"That a communication by railway, between Doncaster and the North Midland Railway, at the nearest and most convenient point, would be attended with local and general benefit." It was further resolved that, as a matter of precaution, it was desirable to deposit an additional plan of a branch falling into the North Midland Railway at the Swinton station; and the engineers received orders accordingly. This alteration, it was stated, would not prevent an application to Parliament in the next session.—The meeting was very numerously attended by influential gentlemen connected with that part of the country.

NORTHAMPTONSHIRE BANKING COMPANY.

The fourth annual meeting of the proprietors in this company was held on Thursday, the 8th instant, at the Angel Hotel, Northampton. The report of the directors stated that, after paying two half-yearly dividends, together amounting to 6 per cent. for the past year, and making an ample provision for bad and doubtful debts, a sum of 925*l.* 13*s.* 5*d.* had been added to the surplus fund, thus augmenting that fund to 2593*l.* 12*s.* 5*d.* The report having been unanimously adopted, William Watkins, Esq., and Mr. John Phipps, were re-elected members of the board, and the thanks of the meeting were voted to the directors and manager, for their attention to the affairs of the bank.

NEWPORT DOCK COMPANY.

A special general meeting of the proprietors of this undertaking was held at the Dock-house, Newport, on Wednesday, the 7th instant.

SAMUEL HOMFRAY, Esq., in the chair.

The CHAIRMAN announced that the whole amount of the capital authorised to be raised by shares, had been subscribed; power was, therefore, to be taken at the meeting to raise a sum of 15,000*l.*, which, with the former loan of 25,000*l.* from the Palladium Assurance Company, will complete the dock, and a sufficient part of the originally intended basin, to answer the purposes of the trade for some years at least. It is expected that the dock thus completed, will be opened for the reception of vessels in the month of January or February next. The works will be completed at a cost of about 120,000*l.* Of this, one-third will have been borrowed, and the remaining two-thirds subscribed by the shareholders.

HARLEPOOL DOCKS AND RAILWAY.—The inner dock at Hartlepool is in a state of great forwardness, and is expected to be opened by the latter part of next month; the Hartlepool and Stockton Railway is also drawing rapidly to completion, and will be ready for opening about the same time as the dock.—*Northern Times.*

MINING CORRESPONDENCE.

ENGLISH MINES.

HOLMEUR MINING COMPANY.

Oct. 12.—I beg leave to inform you, that Hitchens's shaft is sunk to a depth of thirty-five fathoms one foot, and ground somewhat harder. In the 100 fathom level, west of the engine shaft, the lode still holds good, both in size and quality, being one foot four inches wide, and worth about 26*s.* per fathom for ore. In the winze, sinking below this level, the lode is still about one foot wide, and worth one ton and a half, or 12*s.* per fathom. In the ninety fathom level, west of James's winze, the lode is improved, being now eighteen inches wide, and worth one ton and a half of ore, or about 12*s.* per fathom. In the eighty fathom level, west of Dennis's winze, the lode still continues a rich course of ore, being two feet wide, and worth from four to five tons of ore, or 36*s.* per fathom. The eighty fathom level, west of the engine-shaft, is still driving in favourable ground, and in a direction, we expect, that will shortly meet with the lode. In this level, east of the engine-shaft, the lode is sixteen inches wide, and at present unproductive. In the winze, sinking below this level, the lode is sixteen inches wide, and worth three tons of ore, or about 30*s.* per fathom. The stopes in the back of this level are still very productive, the lode being two feet wide, and worth six tons of ore, or about 30*s.* per fathom. The lode in the seventy fathom level stopes is much as last reported, eighteen inches wide, and worth three and a half tons of ore, or 30*s.* per fathom. In the sixty fathom level, driving south on the lead course, the lode is six inches wide, and producing good work for silver-lead ores. In the western stopes, in the back of this level, the lode is fourteen inches wide, and worth two tons of ore, or 14*s.* per fathom. The lode in the eastern stopes, in the back of this level, is two feet wide, and worth about 14*s.* per fathom. Bray's shaft is not yet commenced sinking, the men being employed for the last fortnight fixing whim, clearing shaft, &c., but expect they will be in course to sink in a day or two. The tribute pitches, upon the whole, are still looking well. F. PHILLIPS.

TRETOIL MINING COMPANY.

Oct. 12.—I beg to send you my report of Tretoil Mine, which is as follows:—The lode in the engine-shaft is much as last reported, fifteen inches wide, containing some good ore; we have not progressed much here since last week, in consequence of preparations for sinking, which are now complete, and we expect the shaft will now go down speedily. The lode in the thirty, west of engine-shaft, is fifteen inches wide, opening tribute ground. The lode in the winze, sinking from the twenty fathom level to this level, is eighteen inches wide, opening very good tribute ground. The lode in the thirty fathom level, east of engine-shaft, is six inches wide, and unproductive. The lode in the rise, in the back of this level, is fifteen inches wide, and worth two tons of ore, or 14*s.* per fathom. The lode in the twenty fathom level, west of John's shaft, continues split up, and unproductive. The lode in the twenty fathom level, east of Bray's shaft, is fifteen inches wide, opening good tribute ground. John's shaft, sinking under the twenty fathom level, is progressing in good ground. The lode in the tea fathom level, east of Bray's shaft, is fifteen inches wide, opening tribute ground. In the adit, east of Bray's, we have not cut any lode in cross-cutting. The cross-cut, west of John's, is progressing speedily towards the Mine Park lode, in good ground. We have been searching for the back of this lode, at seven fathoms deep, to ascertain its direction; we have intersected it, and find it eighteen inches in width, composed of gossan, spar, and spots of ore—it is kindly to make ore in depth; the adit driving towards it will intersect it nearly thirty fathoms in depth. The mine, generally speaking, is much the same as last week, looking well. We have sampled this day, by computation, 20*s.* tons of ore.

HENRY WILLIAMS.

UNITED MILLS MINING COMPANY.

Oct. 13.—Adit End East—Driving south in search of more lode. Adit End West—In driving west, at this level, the lode is two feet wide, six inches of which is producing good ore. Thirty Fathom Level—The lode in this end is about two feet wide, producing some good stones of ore. Thirty-six Fathom Level—In the eastern end of this level the lode is small and poor. West of ditto—Lode four feet six inches wide, producing some ores, but not rich. Forty Fathom Level—In driving east of eastern shaft the lode is two feet wide, very good for ore. In driving west of James's shaft the lode is small, and poor at present. Stopes, west of Nettle's Winze—In these stopes two and a half feet of the lode is good for ore. Stopes, east and west of Webber's Winze—These stopes are not producing so much good ore as they did a little time past; the lode still continues large, but coarse in quality. Eastern Shaft—In sinking the eastern shaft the lode is three feet wide, with a very promising appearance. Fifty Fathom Level—In driving east of Williams's shaft, we have not broken down the lode since last reported. West of ditto the lode is from three to four feet wide, eighteen inches on the north part ore of a fair quality. East of Diagonal Shaft—Lode three feet wide, coarse in quality. Williams's Shaft—No lode broken since setting-day in this shaft. C. PENROSE.

TRELEIGH CONSOLS MINING COMPANY.

Oct. 10.—Our levels continue unaltered, with but little exception. The forty east appears to be getting into settled ground, as we get clear from the slide. The lode in the shaft has not been broken since our last, the men having been employed finishing the alteration in the lifts, to have every place in regular course of working by Monday. Our tribute department continues to look promising—in fact, we have more ore in sight than we had at our last setting. W. SINCOCK.

WHEAL LEEDS MINING COMPANY.

Oct. 10.—In the eighty fathom level east the lode is three feet wide, very kindly. In the eighty fathom level west the lode is one foot wide, producing two-thirds of a ton per fathom. In the seventy fathom level west the lode is nine inches wide, composed of ore and spar, kindly. In the sixty fathom level east the lode is one foot wide, producing one ton of ore and spar, kindly. In the cross-cut south, at the eighty fathom level, the ground is a little improved. C. H. RICHARDS.

WEST WHEAL JEWEL MINING ASSOCIATION.

Oct. 12.—In Buckingham's engine-shaft, sinking below the fifty-seven fathom level, the ground is still favourable. Nothing done in the south adit shaft, sinking below the forty-two, in consequence of the men being employed in enlarging the bob-pit. The forty-two east, on Wheal Jewel lode, is worth 36*s.* per fathom. The thirty west, on this lode, is one foot wide, and the stopes in the back looking well, worth 14*s.* per fathom. The twenty west, on the south lode, is worth 15*s.* per fathom, ground still favourable for driving. The rise in the twelve fathom level, on Wheal Jewel lode, is worth 6*s.* per fathom. The deep adit west, on south lode, is worth 7*s.* per fathom. STEPHEN LEAN.

TINCROFT MINING COMPANY.

Oct. 11.—From my yesterday's inspection of this mine I hand to you the following report:—The lode in the engine-shaft is about five feet wide, good work for tin, worth from 45*s.* to 50*s.* per fathom, and still likely to continue. The lode in the 142 east is very large, and thin throughout, producing about the enough to pay for driving it; at present I cannot say much other of the west end, same level. We have still a large good lode in the 120 east, worth from 30*s.* to 40*s.* per fathom for tin. The lode in the 100 end is from four to five feet wide, good work for tin and copper ore, worth from 20*s.* to 30*s.* per fathom; this end appears to be gradually improving as we advance. The ninety end is looking well for the copper ore, worth from 25*s.* to 30*s.* per fathom. The eighty-one continues to yield excellent work for tin; this end will produce a ton and a half of black tin per fathom, or worth about 70*s.* per fathom, leaving back and bottom equally good. The seventy-two end is yielding tin stuff, and promising, but not rich. Our pitches, more especially for tin, are looking better than I have seen them for some time past. Nothing new has taken place in the new ground; the lode which we met with in the new shaft is going down very regular, and has a very promising appearance, with some copper ore in it, with manganic and fluor spar.

W. PAUL.

POLBREK MINING COMPANY.

Oct. 7.—With respect to the tribute department, we have no alteration since my last, the men being all engaged in driving the lode in their several pitches, and will continue to do so for several days to come; they are, however, working hard and diligent. The downward lode, going west of Vice's flat-rod engine-shaft, is about one foot wide, and producing good work for tin; this level is making good tribute ground. At the twenty-two fathom level, driving east of Bowe's shaft, Dorens's lode is eighteen inches wide, but in driving the last fathom, we find it has proved poor; it will at present only produce a little tin. In the back of this level, we find the lode, in stopping, to be about fifteen inches wide, rich for tin. In Dorens's shaft the lode is two feet wide, but at present poor. At Murray's, the appearances there are improving since I last wrote you, the tributaries having a pretty fair prospect for copper ore. H. HOWE.

TAMAR SILVER-LEAD MINING COMPANY.

Sept. 20.—Your annual meeting of the shareholders of this mine, I presume, is to be held on the 12th of next month (October), and as I readily comply with the instruction I have received from Mr. Stansby to attend that meeting, it appears to me that a lengthened report for that purpose would not be desirable or needful, as it would only be a repetition of what I have written monthly. Any questions which the meeting may think proper to put, I hope to be able to answer satisfactorily; a few remarks, however, may not be unnecessary. In the first place, I beg to call your attention to the near approach of the expiration of a part of the holding we have in the lease or grant of these mines, that from the expensiveness of the operations required in consequence of its present depth, and very extended length of the levels, it behoves us to lay before the grantee, that nothing will support this lease but the strictest eye to economy in every department, and every encouragement from them, by paying very small dues, as an inducement to carry on future and effectual operations. During the past twelve months, I find we have driven in the different levels on the course of the lode, and such winzes, to the extent of 300 fathoms; we have also provided to our stock of machinery by the purchase and erection of an 18-inch cylinder steam stamping engine, which cost the company to complete 568*l.* 1*s.* 8*d.* The stamping engine is now in full operation, from which we are enabled to return out of the hollans about 100*l.* per month; the expense of labour out of that sum is from 20*l.* to 22*l.* per month, and the rest of working, such as engine men, coals, grease, stamp heads, &c., we calculate about 24*s.* per month—leaving a clear profit of about 5*l.* I observe also that we have sold in the twelve months ending August last, about 500*t.* worth of ore, and our last month's sale is the largest we have made. Our cost will not amount to so much for September as that of August, by something considerable. We have been providing and charging a stock of coals for the winter, which has of late augmented the monthly cost. In conclusion, I am of opinion that the Tamar Mine, with a continuation of care and economy, will be found a profitable undertaking to the proprietors for years. R. ROWE.

SIR CHARLES LEMON'S MINING SCHOOL.

A most important meeting was held in the Town-hall, Truro, on Thursday last, 15th instant, for the purpose of taking into consideration Sir C. Lemon's proposition for the establishment of a Mining School. W. H. BULLMORE, Esq. (the mayor), in the chair.

The feeling of the meeting was most unanimous in favour of promoting the magnificent object of the hon. baronet. The business was commenced by Dr. BARHAM, who read a long letter from Sir C. Lemon, explanatory of his views, as to the class of boys to be educated, the subjects to be taught, the constitution of the governing body, and the terms of the bill to be introduced into Parliament. The letter further treated of several objections which had been raised to the proposed plan; viz., that the school would be too expensive for those who would most require it—that other classes besides miners would share in the benefits derived from funds furnished by the miners exclusively—that the landholders would not have to contribute—and that the provision for religious instruction would not meet the views of all parties. The letter was very favourably received.

Mr. R. TAYLOR (after the resolutions had been moved) made an excellent practical speech, in which he showed most convincingly to how great an extent the county would be benefited by such an establishment as that proposed.

The meeting was addressed by Messrs. J. E. VIVIAN, M.P., EDMUND TURNER, M.P., TWENDY, S. MOYLE, STOKES, G. SIMMONS, jun., DR. CARLYON, DR. BARHAM, &c.—The following resolutions were passed:—

That this meeting considers the establishment of a mining college for the county most desirable, and highly appreciates the proposal conveyed in the letter of Sir Charles Lemon for establishing such a college in this town.

That a committee be appointed in order to ascertain in what way assistance can best be rendered in carrying out the design, and that such committee consist of the following gentlemen:—The Mayor for the time being, Messrs. Vivian, M.P., Turner, M.P., Twendy, Moyle, Stokes, and Barham, with power to add to their number.

That the grateful thanks of this meeting be conveyed by the chairman to Sir Charles Lemon, for the munificent offer contained in his letter, and for his constant exertions in behalf of the mining interest, which this meeting believes will be most effectually supported by the establishment of a mining college.

WEST RIDING GEOLOGICAL AND POLYTECHNIC SOCIETY.

The annual meeting of the Geological and Polytechnic Society of the West Riding of Yorkshire was held in the Music Saloon, at Wakefield, on Monday the 5th instant.

The Right Hon. Earl FITZWILLIAM (president) in the chair.

Professor SEDGWICK was present during the whole of the day's proceedings, and there was a good attendance of members, not merely belonging to Yorkshire, but from some of the adjoining counties. In the morning, after some routine business had been disposed of, the Rev. W. THORP, of Womersley, read a paper on the Agriculture of the West Riding considered Geologically. This paper being the first of a series on the same subject, was confined principally to the red sandstone district. It created considerable interest from the connection it pointed out as frequently existing between geology and the pursuits of the agriculturist. After it was concluded an animated discussion arose in regard to some of the general practical bearings of the subject. Professor Sedgwick was called upon for his opinion. He stated that having paid more attention to the leading principles and grand features of geology, he was not able to give an opinion upon a subject involving so many minute details, and to which he had not paid any attention. His knowledge of geology as a science, enabled him to say that the agriculturist might frequently if not uniformly be benefitted by an acquaintance with the nature of the substrata on which his land was situated, though this was not always a safe criterion, since the drifted material which forms the sub-soil has sometimes been brought from a very great distance, and is consequently totally different in its nature from that of the strata upon which such drifted material is situated. Notwithstanding this, he was of opinion that

PUBLIC COMPANIES.

MEETINGS.

BRISTOL AND EXETER RAILWAY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of this company will be held on Thursday, the 29th of the present month of October, at the Merchants' Hall, in the city of Bristol, at half past Eleven o'clock, to consider and determine whether the said company shall create and issue, and if so determined, then to create and issue, new shares, in lieu and instead of certain shares forfeited and merged in the said company, under the provisions contained in an Act of Parliament made and passed in the third year of our present Majesty, intituled, "An Act to amend and enlarge the powers and provisions of the Acts relating to the Bristol and Exeter Railway," and also to fix and determine the amount of such new shares, if created, and the price to be demanded for the same. The chair will be taken at Twelve o'clock precisely.

By order of the board of directors,
FREDERICK RICKETS, Chairman.
J. B. BADHAM, Secretary.

Office, 50, Broad-street, Bristol, October 14.

EAST TRETOIL MINING COMPANY.—The Provisional Directors hereby give notice, that a GENERAL MEETING of shareholders in the above-named company will be held on Saturday, the 31st day of October instant, at the office of the company, 6, St. Mildred's-court, Poultry, London, at One o'clock, and the afternoon precisely, for the purpose of electing five directors and two auditors, pursuant to the conditions and regulations of the company. Nominations of candidates for seats in the direction are required to be in writing, addressed to the secretary, at the office of the company, at least three clear days before the day of election.

S. BUXTON, Secretary.

REDMOOR CONSOLIDATED MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders of this company will be held at the office of the company, 44, Finsbury-square, London, on the 4th day of November next, at Two o'clock precisely, for the purpose of confirming or rejecting a resolution passed at a General Meeting of the shareholders, held at the said office on the 12th day of October instant:

"That the capital of the company be increased by the sum of £1 per share, in addition to the sum of £1 per share, the original amount of each share in this company, and that the said further sum of £1 per share be paid by such instalments as the managers of the company may deem expedient, in manner as is provided by the rules and regulations of the company in respect of the original £1 shares, and that the shares of the company be subject to forfeiture in default of payment of any instalment of such increased capital, in such manner as is provided in relation to the non-payment of any instalment of the original £1 per share upon the original shares."—Notice is also hereby given, that all shares on which the eighth call shall remain unpaid on the 10th of November next will be then forfeited.

44, Finsbury-square, October 13.

THAMES HAVEN DOCK AND RAILWAY COMPANY.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of this company (as adjourned) will be held at the London Tavern, Bishopsgate-street, on Friday, the 29th instant, at Eleven for Twelve o'clock.

By order, HENRY AMINCK, Secretary.

26, Moorgate-street, October 12.

UNITED HILLS MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders of this company will be held at their office, in Adam's-court, on Thursday, the 22d day of October instant, at One o'clock precisely, for the purpose of deciding on the property of instituting Chancery or other proceedings against Sir Thomas Turton, for the recovery of the money held by him, as arrears of salary, or adopting such other resolutions in respect of the claim as may appear expedient. Also, by virtue of a resolution from certain shareholders, "for the purpose of removing Sir Thomas Turton, Bart., from the office of a director of this company, and appointing another director in the place of the said Sir Thomas Turton, if so removed."

JAMES SMITH, Secretary.

WHEAL WALLIS MINING COMPANY.—Notice is hereby given, that a SPECIAL MEETING of the shareholders in the above mine will be held at this office, on Thursday, the 29th of October next, at Four o'clock in the afternoon, for the purpose of taking into consideration the disposal of those shares on which the last call has not been paid.

By order of the directors, HENRY CARR, Sec.

CALLS.

WHEAL HENNOCK AND CHRISTOWE MINING COMPANY.—Notice is hereby given, that the time allowed for the payment of the THIRD INSTALMENT OF FIVE SHILLINGS per share, on the call of £1, made the 16th day of March last, will expire on the 21st of this month (October), and unless the same be paid on or before that time the shares will be absolutely FORFEITED, for the benefit of the paid-up shareholders, without further notice.

By order of the directors, H. MOLYNEUX, Sec.

TAFF VALE RAILWAY.—CALL OF FIVE POUNDS PER SHARE.—The directors of the Taff Vale Railway Company, acting under the provisions of the act of incorporation, hereby give notice, that the proprietors of shares are required to pay, on or before the 9th day of November next, to any one of the undermentioned bankers, the sum of FIVE POUNDS on each of their respective shares:

London and Westminster Bank, London.

Monmouth and Glamorgan Bank, Cardiff.

Messrs. Ballie, Ames, and Co., Bristol.

Messrs. Wilkins and Co., Merthyr.

By order of the board of directors, JOSEPH BALLS, Secretary.

BRISTOL AND EXETER RAILWAY.—Notice is hereby given, that the registered proprietors of shares, on which all the calls have been paid up, may RECEIVE THE INTEREST due on the 6th of October, on application at this office, on Saturdays, between the hours of Eleven and Three o'clock. The interest on shares in arrear on the last call, but on which all previous calls have been paid, will be carried to the credit of the respective proprietors, and be receivable by them upon payment of the arrears.

By order of the board, J. B. BADHAM, Sec.

CORNUBIAN MINING COMPANY.—Notice is hereby given to the holders of shares in the late Cornubian Mining Company, that the directors, in selling the materials to pay the liabilities of the mine, reserved for the old adventurers the right of joining the NEW COMPANY, upon their paying to Mr. P. Stanislas, Finsbury-square, the sum of ONE POUND per share for every share in the old company, which must be given up to be cancelled (with the third call paid thereon) on or before the 22d of October instant, after which date they will have no claims, under the conditions of sale, to take shares in any company that may be formed for the future working of the Cornubian Mine.

Finsbury-square, Oct. 14.

AGRICULTURAL AND GENERAL LIFE ASSURANCE COMPANY.—29, NEW BRIDGE-STREET, BLACKFRIARS, LONDON, Western Branch—28, Suffolk-place, Post-Mill East.

ADVANTAGES OFFERED BY THIS COMPANY.

Protective securities for the benefit of the assured, not presented by any other institution. The most economical rates of premium, consistent with safety—adapted to Europe, our East Indian and Colonial possessions. An increasing scale for securing loans on debts, requiring a less immediate payment for the whole term of life than usually demanded. Premiums payable annually, half-yearly, or monthly. Age admitted in the policy. Policies granted from £10 to £100. Claims payable in one month after proof of death, and £10 per cent. immediately after satisfactory proof thereof whenever desired. Policies effected in Ireland or Scotland recoverable in the Courts of that country. Endowments and annuities, immediate and deferred, on advantageous terms. A board of management in attendance daily. Medical men remunerated for their reports.

C. F. KIRKMAN, Resident Manager.

A liberal commission allowed to solicitors and agents.

Applications for the office of agent to the institution in the different towns of the kingdom are invited, addressed to the resident manager, at the house of the company.

PHILANTHROPIC LIFE ASSURANCE, ANNUITY, AND ENDOWMENT SOCIETY.—47, WEST STRAND.

Capital £1,000,000, in 5000 shares of £100 each. In addition to the ordinary business of Life Assurance within the reach of those who have hitherto been deprived of its advantages, by assuming so low as £10, and taking the premiums in monthly or even weekly payments, the operative classes will be able to provide for the expenses contingent upon the uncertainty of life, and gain habits of independence and industry, the benefit of which will be felt by the community at large.

The society who propose to grant deferred annuities of £10 and upwards, commencing at any age named by the parties, on payment of weekly sums, thus giving the working man the advantage of a benefit society with the security afforded him by a large accumulated capital.

The society also proposes to endow present or future born children on receiving a sum down, or by annual, half yearly, quarterly, monthly, or weekly payments.

Three-fourths of the profits will be divided amongst the assured, which will be either added to the policy, or be applied to the reduction of the premiums, at the option of the assured.

FOR INSURING £100 BY WEEKLY, MONTHLY, QUARTERLY, HALF-YEARLY, OR YEARLY PAYMENTS.

Age.	Week.	Month.	Quarter.	Half year.	Year.
20	£ 1 s. 6 d.				
30	£ 1 s. 1 d.				
40	£ 1 s. 1 d.				
50	£ 1 s. 1 d.				
60	£ 1 s. 1 d.				

When the yearly premium exceeds the weekly payments, the difference will be charged at entry, and the first week of each succeeding year, thus:

Age 20, Premium £100, 10s.

10d. per week is £1. 10s. extra £1.

Deferred annuities may be arranged to commence at any age.

Immortal annuities also created upon equitable terms.

Persons wishing to be appointed agents for this society will send their applications to the office, addressed to the manager.

THOMAS PATON, Manager.

GREAT REDUCTION IN INSURANCE OF FARMING STOCK, THE FARMERS' AND GENERAL FIRE AND LIFE INSURANCE, LOAN, AND ANNUITY INSTITUTION.

(Empowered by Act of Parliament.)

Capital £500,000, in 50,000 shares of £10 each—Deposit, £1 per share.

OFFICES—No. 22, NORFOLK-STREET, STRAND.

HONORARY DIRECTORS.

Those marked thus * are members of the Royal Agricultural Society of England.

The following have consented to act as Honorary Directors for the respective counties attached to their names:—

The Duke of Rutland, a trustee of the Royal Agricultural Society of England—Leicestershire.

The Earl of Stradbroke, a governor of the Royal Agricultural Society of England—Suffolk.

The Earl of Coventry—Worcestershire.

Earl Ducie, vice-president of the Royal Agricultural Society of England—Gloucestershire.

Lord Rayleigh, governor of the Royal Agricultural Society of England—Essex.

The Hon. C. G. Noel, M.P., a governor of the Royal Agricultural Society of England—Rutlandshire.

The Hon. H. Fitzroy, M.P.—Northamptonshire.

The Hon. Henry St. John—Wiltshire.

* Sir T. B. Lethbridge, Bart.—Somersetshire West.

* Sir T. Baring, Bart., a governor of the Royal Agricultural Society of England—Hants.

* Sir J. B. Mill, Bart.—Hants.

* Sir R. Jarvis, Bart.—South Hants.

* Sir John Mordaunt, Bart., M.P.—Warwickshire.

* Sir Thomas Mandeville—Glosseyney.

W. L. Bridges, Esq., M.P., a governor of the Royal Agricultural Society of England—Wiltshire North.

William Miles, Esq., M.P., a governor and member of the council of the Royal Agricultural Society of England—Somersetshire East.

Quinton Dick, Esq., M.P.—Essex.

* Col. Le Couteur, a member of the council of the Royal Agricultural Society of England—Jersey.

J. J. Farquharson, Esq., a governor of the Royal Agricultural Society of England—Dorsetshire.

* J. Horlock, Esq.—Gloucestershire West.

F. Pym, Esq., a governor and member of the council of the Royal Agricultural Society of England—Bedfordshire.

* T. E. Hale Phillips, Esq.—South Wiltshire.

* Lieut.-Col. North, president of the Banbury Agricultural Association, Oxfordshire.

The Rev. Algernon Peyton—Isle of Ely.

The Rev. H. G. Williams, a governor of the Royal Agricultural Society of England, and president of the Llandover Agricultural Society—Carmarthenshire.

W. Holme Summer, Esq., chairman of the Agricultural Association for the southwestern parts of Surrey.

Henry Spearman, Esq.—Durham.

R. Thirkromton, Esq., a governor of the Royal Society of England—Berkshire.

W. Bagge, Esq., M.P.—Norfolk.

J. S. D. Selby, Esq.—Norham and Islands, North Durham.

John William Fane, Esq.—Oxfordshire.

George Thornhill, Esq., M.P.—Huntingdonshire.

SCOTLAND.

The Earl of Stair—Edinburghshire.

Sir James Colquhoun, Bart., M.P.—Dumbartonshire.

Sir C. G. Stuart Monteath, Bart.—Dumfriesshire.

Sir George Sinclair, Bart., M.P.—Caithness.

The Hon. Charles Hope, M.P.—Linlithgow.

S. H. Stewart, Esq.—Wigtownshire.

M. Sprot Stewart, Esq.—Kirkcudbrightshire.

DIRECTORS.

With power to add to their numbers.

Chairman—Rogerson, Joseph, a governor of the Royal Agricultural Society of England.

Managing director—Shaw, W., Esq., a governor and member of the council of the Royal Agricultural Society of England.

Blackstone, J., Esq.

Cooper, J. B., Esq.

Jenkinson, Wm., Esq.

Lacey, J. M., Esq.

Low, Wm., Esq., a governor of the Royal Agricultural Society of England.

Pate, William, Esq.

Wentworth, Godfrey, Esq., Woolley Park, Wakefield, a governor of the Royal Agricultural Society of England.

Workman, J., Esq.

Wilmett & Wollett, Esq., a governor of the Royal Agricultural Society of England.

Younst, W., Esq., a governor and member of the council of the Royal Agricultural Society of England.

Joint Solicitors—John Rogerson, Esq., and C. Boydell, Esq.

Standing Counsel—C. W. Johnson, Esq.; W. Shaw, Esq.

Medical Officers—Blackstone, J., Esq.; Blanch, Gustavus W., Esq.

Secretary—John Hanson, Esq.

Auditors—Birnie, John, Esq.; Donaldson, John, Strangeways, Esq.

Bankers—The London and Westminster Bank.

FARMING STOCK.—In order to carry out effectually the objects of the Legislature, in repealing the duty on the insurance of farming stock, and to insure, a charge of only 1s. 6d., without the average clause, is made.

yielding 90,548 tons of copper, the value of the ores sold being £,665,795*l.*, and the average standard for that period 111*l.* 15*s.* The returns for the past ten years, ending 30th June, 1840, are then given:—Ore, 1,447,657 tons; produce in copper, 116,204 tons; amount, or value of ores raised, 8,720,698*l.*, at an average standard of 109*l.* 8*s.*—giving an increase of 313,440 tons of ore, or 25,660 tons of copper, and 1,754,490*l.* in money, being an increase, as before-mentioned, of 28 per cent. in ten years; and yet, with such increase, "Y. Z." tells us, "that the produce of our copper mines has reached its maximum." Such are the principal features of the first letter in reply to Mr. TREFFRY. We hope next week to be able to take up the subsequent correspondence on the part of "Y. Z.", which, although written at considerable length, contains so much of a personal nature as to divest it of general interest. We shall confine ourselves to the main points, and more especially to the statistical statements, which will be immediately followed up by Mr. TREFFRY's reply.

It is with pleasure that we again invite attention to the communications which appear in our columns, on the important subject of the ventilation of our coal mines, which increases in interest in each succeeding Number. Although the observations made by our numerous correspondents cannot be said to embrace any novel feature, yet it is gratifying to know that they have been the means of disseminating information far and wide, and have concentrated in one focus that practical knowledge which the respective parties possess—at the same time, that the subject has been treated as one possessing claims on all whose philanthropy and sympathy for the unfortunate sufferers, and, in many instances, their bereaved families, is thus called forth.

We this week are favoured with a further communication from Mr. M. DUNN, accompanied by a diagram,* which we are glad to find is intended only as the introduction to a series of letters, which we feel assured will be perused with anxious interest, and will, we trust, elicit from others a continuation of correspondence on so vital a question. Practical observation has done much to point out the modes which may be resorted to, so as, in a great measure, to avoid the perils to which the collier is subjected, while it must be admitted, we are indebted to the scientific researches of many eminent men for the information we possess with respect to the gases, and it is to them we are chiefly to look for the result of their labours, in offering suggestions which may be adopted by the practical miner. Mechanical means may, and will, do much to effect the object, and where care and caution is observed, where the viewer is not only competent, but is prompt in his attention to the duties which devolve on him (and what duty can be more sacred than the preservation of life?) we believe that the accidents would be comparatively few. In most cases, we find that those only who could tell the tale are the unfortunate sufferers, and it is from most imperfect evidence that any conclusions can be drawn, except that of the existence of fire-damp.

The communication of "A Workman" is a sensible letter, and boldly puts forward a fact which is disgraceful to human nature, but which, we lament to say, is, nevertheless, too true. There is not that liberality on the part of the viewers which we should expect to find characterise them. It may be the frequency of accident makes them callous to all those feelings which render man estimable, while, we fear, there is too much truth in the saying, that they are afraid of "throwing away their bone;" and it is the more surprising to find this feeling exists equally on the part of those who have risen from the "ranks," as with the class of agents who, to use our correspondent's phrase, are "college bred," and "who are sometimes found to undervalue the practical education which can only be obtained amidst years of toil in the mine."

Another intelligent correspondent, "J. R. P.", leads us to hope that his communication will be followed by others (illustrated by diagrams) describing the various methods or plans resorted to, leaving, as he states, "the subject to the skill of others for improvement." The thanks of the mining community at large—and more especially the working miner—are especially due to those who thus labour in so holy a cause, and who, we trust, will reap an ample reward, while we trust the result of the inquiries to which this discussion is likely to lead, will immortalise the name of him who shall discover the means of destroying, or rendering innocuous, so deadly an enemy. We shall continue to keep attention alive on the subject, and have again to impress on all who are conversant with the ventilation of mines, to lend their aid, however humble it may be, in the achievement of an object possessing so many claims.

LATEST INTELLIGENCE.

CORNWALL, OCTOBER 15.—There was no sale of copper ores this day. Average standard of sale on the 8th instant, 114*l.* 7*s.*—Produce, 8*s.*—Price, 7*s.* 5*m.*

MARAZION, OCTOBER 10.—The number of pumping engines reported this month is fifty-five. They have consumed 3440 tons of coal, and lifted 34,000,000 tons of water ten fathoms high. The average duty of the whole is, therefore, 55,600,000 lbs. lifted one foot high by the consumption of a bushel of coal.

PRICES OF SHARES IN BIRMINGHAM.—London and Birmingham Railway, 15*s.*; Great Western 8*s.*; Birmingham and Gloucester, 7*s.*; North Midland, 8*s.*; Manchester and Leeds (half-shares), 3*s.*; London and Brighton, 2*s.*; Birmingham and Staffordshire Gas, 7*s.*—Midland Counties Herald.

PRICES OF SHARES IN LIVERPOOL.—Great Western Railway, 9*s.*; ditto (half-shares), 4*s.* 1*m.*; Manchester, Bolton, and Bury, 3*s.* 1*m.*; East Lancashire, 8*s.* 1*m.*

EXPORTATION OF THE PRECIOUS METALS.—The exportation of the precious metals from the port of London to foreign ports for the week ending the 8th inst., was as follows:—Silver coins to Hamburg, 43,400 oz.; Rotterdam, 45,000 oz.; St. Petersburg, 369,000 oz.; Mexico, 59,233 oz.—Silver bars to Hamburg, 3350 oz.; Rotterdam, 3000 oz.; St. Petersburg, 29,239 oz.—Gold bars to St. Petersburg, 725 oz.—Gold coins to St. Petersburg, 1375 oz.

BANK OF ENGLAND.—QUARTERLY AVERAGE OF THE WEEKLY LIABILITIES AND ASSETS, FROM JULY 21 TO OCTOBER 13, INCLUSIVE:—

	ASSETS.
Circulation	£17,231,000
Deposits	6,762,000
	£23,993,000

Doubling-street, October 13.

* We intended Mr. M. Dunn's letter for insertion in our present Number, but have been unable to get the plan engraved in time.

ORIGINAL CORRESPONDENCE.

ON THE DUTY PERFORMED BY CORNISH STEAM-ENGINES. TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I noticed in your valuable Journal of the 19th ult., a statement of the experiments tried on several engines in Cornwall, for the purpose of satisfying the deputation from the Dutch Government of the correctness of the monthly reports of duty stated to be performed by the engines in Cornwall. Of the accuracy of these experiments I have no doubt—having myself tried similar experiments, and knowing that a trial made for a short period may exhibit the extraordinary results stated. I think, however, for practical purposes—for the promotion of which your Journal appears to be a most strenuous advocate—the average duty performed for twelve months would be a better criterion of the advantages to be obtained by adopting the Cornish system; at any rate, I trust the following comparative statement of the duty performed by several engines, from Sept., 1839, to August, 1840, inclusive, and the duty done in short trials, will prove interesting to some of the readers of your Journal:—

Engines.	Diameter of cylinder.	Duty reported as performed during a six hours trial.	Average duty performed during twelve months.	Lowest duty reported in one month.	Highest duty reported in one month.	Aver. coal per hour per horse-power.	Variation in duty.	per cent.
Powery Consid—Austin's	6 inches	132,721,756	132,586,199	79,825,343	87,32	2.58	16.6-16.8	
Wheel Vor-Borlase's	6	20,357,676	26,371,173	2.43	85,825,814	73,844,579	16.1-16.8	
Wheel Darlington	6	81,612,292	82,730,987	8.51	84,862,518	79,389,546	16.8-16.9	
Charlestown United Mines	6	60,381,060	64,573,656	2.46	55,069,648	44,177,479	16.1-16.8	
Billo stamping engine	72	50,081,060	53,104,364	2.48	51,160,528	51,160,528	16.6-16.8	
Wheel Vor	60	77,319,217	77,319,217	2.49	60,754,678	60,754,678	16.5-16.8	
						55,069,648		
The Cornish engine at the East London Water Works, Old Hall, designed and erected by Mr. W. West;								
A Boulton and Watt engine, and the same works, Old Hall, designed and erected by Mr. W. West;								
—Boulton and Watt engine, and postage fitted up with Harvey and West's patent valves;								

As regards the duty stated to be performed by the single engines, in the foregoing table, no comparison, excepting a very vague one, can be made, as the arrangement of the pumping machinery in one may, necessarily, be such as to cause more friction than in another; and thus the engine representing the greatest duty may, in fact, be inferior to that reported as doing the least: these remarks refer particularly to the pumping engines. Again, the quality of the coals is a most important matter for consideration. The coals used for the engines in Cornwall are generally Welsh coals—the best that can be obtained—while the coals used for the East London Water works engines were the refuse of Newcastle coals—after having passed through a sieve, whose meshes were not wider than three-fourths of an inch, and, consequently, the chief portion were very small, approximating to dust; the low price, however, renders it the most economical coal for use in London. Again, the friction of the pump-work of the East London is much less than that of any of the engines in Cornwall before quoted, and, with the same quality of coals, would, consequently, show a much greater duty. It must also be borne in mind, that, *ceteris paribus*, the duty will be less in an engine of small size than a large one—the friction being directly as the diameters, and the power as the square of the diameters of the cylinders.

As regards the Boulton and Watt, or low pressure engine, quoted above, it should be observed, that it generally works about one-third expansive—that about 15 per cent. of the duty is due to the introduction of those excellent valves, patented by Mr. Nicholas Harvey and Mr. Wm. West; and that 25 per cent. is due to the complete clothing of the boiler and flues, and casing of the steam jacket, top of cylinder, nozzle, and steam-pipes, with Messrs. Bourns and Whiting's patent felt—with the ordinary valves, and with the boiler and cylinder, &c., exposed, or not clothed—the duty attained did not exceed 24,138,000 lbs. lifted one foot high, and the engine required 7.65 lbs. of coal per hour per horse-power.

An inspection of the table will show how little reliance is to be placed on short trials, for, in the case engine, the variation in duty, during twelve months regular work, is very great; and taking the Wheel Vor stamping engine, the duty done during the short trial was less than the average reported duty for twelve months.

The average number of engines reported by the Messrs. Leans*, during the twelve months, referred to in this letter, was equal to 54*s.*; the coal consumed by them equal to 51,887 tons, and the average duty performed was equal to 54,875,000 lbs. lifted one foot high, while the average duty performed by the best engine was equal to 81,068,669 lbs. lifted one foot high. Now, if all the engines in Cornwall were made upon the same plan as that of the best one, the saving in coal would be very great—making an allowance for the varying diameters of the cylinders, and, for that purpose, assuming the average duty to be only 75,000,000, then, upon the fifty-four engines reported, the saving would be equal to 13,223 tons of coal annually: thus—

$$\begin{array}{ll} \text{Duty.} & \text{Tons coal.} \\ 75,000,000 : 51,887 & :: 54,875,000 : 37,964 \\ 31887 - 37964 & = 13923. \end{array}$$

What the saving upon the whole of the engines in the county might be, I cannot say, as, unfortunately, fifty-four only are reported; and this is much to be regretted, as there is very little doubt that the loadable railway located amongst Cornish engineers, by the publication of Messrs. Leans' "Monthly Reporter," has done as much to place the Cornish engineers in the position of superiority they now hold as any thing else—and as the value of the system adopted in the working of the best engines in Cornwall is now more generally appreciated than it was a few years back, it behoves the Cornish engineers to continue their exertions as strenuously as, if not more so than, before, that they may continue to keep their high place amongst the steam engineers of the kingdom.

I am afraid, Sir, I have made this paper too lengthy, but have been engaged for some time past in a series of practical experiments, done for long periods, which I hope shortly to complete, and finding, experience, that little reliance can be placed upon trials of short duration. After all, the average quantity of coals consumed per annum is the question that affects the proprietors' pocket, and this should never be lost sight of, whether in Cornwall, London, or Holland. I cannot conclude, without acknowledging, through your Journal (if you will allow me), the great liberality of the Cornish engineers in always readily affording information, and to this I can bear personal testimony.

I am, Sir, your obedient servant,

Old Ford, Oct. 5. THOS. WICKSTEAD, Civil Eng.

[We are obliged to our correspondent for his communication, and concur fully in the view taken by him; at the same time, that it affords us pleasure to avail ourselves of the opportunity of recording our testimony, in common with that gentleman's, to the "great liberality of the Cornish engineers," who are "one and all" ready at all times to afford information.]

ON THE BEST METHOD OF VENTILATING COAL MINES.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—As the question on the best method of ventilating coal mines is one of very great importance, I here offer a few remarks on the subject. When two shafts, or pits, are sunk down to a coal mine, and a road made through the mine from one to the other, the air that fills this road becomes rarified from the heat of the coal and minerals surrounding—consequently, ascends one of the shafts, just like a chip of wood when immersed in water, and from the same cause—the shaft that is least in depth being that which the air generally ascends, from an obvious reason. Thus we have a process of ventilation going on, so long as the materials at the bottom remain, at a greater degree of heat than the air at the surface of the earth—which current of air is more rapid the colder the air is at the surface (a well-known fact amongst miners, that the current of air is greater in winter than summer); the fire damp, or hydrogen gas, that issues out of the fissures of the coal, or minerals either above or below the coal, gets mixed with the agitated air, and is carried up the shaft as fast as it evacuates itself, leaving the road between the shafts clear and safe. This is the principle on which ventilation is built. A fire placed at the bottom of one of these shafts would heat the surrounding materials also a considerable way up the shaft, and, as the air passed, part of it would be consumed by the fire; the other, and by far the greatest part, would become rarified by passing the fire and heated materials, so ascend rapidly up the shaft—at the same time the surrounding air would rush down the other shaft to supply its place. Thus, a fire placed at the bottom of one of the shafts is only a more powerful substitute for the natural process; it is also evident, that the bottom of the shaft is the most proper place to put a fire—and those who doubt this have only to make the experiment to be convinced.

Having thus got a current of fresh air, we have only to direct its course through the various workings to carry away the gases as they evacuate themselves; but before I describe any method for doing this, let me show how the shafts are got down, also how the road is cut between them, which is generally a troublesome piece of work to manage. Shafts may sometimes be sunk to a considerable depth without experiencing any difficulty or danger from the damps or gases, but, when these present themselves, recourse must be had to some method for removing them away. The general way in this part of the country is to partition a small segment of the shaft off by means of boards, or, otherwise, to introduce pipes, made of boards, about a foot, or a foot by sixteen inches, aperture, down the shaft, carrying the partition or pipes along with them as they proceed in sinking, till they reach the mine; this partition, or the uppermost pipe, when pipes are used, is bent at the top, and carried in an horizontal direction to a little distance from the mouth of the shaft, where a chimney is erected, and a fire kindled at the bottom of it, similar to that mentioned by Mr. "X.", which causes a current of air to descend down the shaft and up the partition, or pipes, to the fire, then up the chimney, carrying away the damps or gases, as before described. Now, having a double road down the shaft for the ingress and egress of the air, answering for a time as two shafts, the cutting of the air or wind-road is then commenced. This road is cut double—that is, two roads are cut at the distance of about six feet from each other, and every three or four yards a cross-way is cut through between them—the pillar or coal left between serving as a partition—the air coming down the shaft going up one of these roads, turning through the opening or cross-way between them, then down the other road and up the partition, or pipes, to the fire. In this way the work proceeds till it reaches the other shaft—the miners always building one opening up as soon as they have cut another through. I may here remark, that while they are cutting the three or four yards, also the opening between, they are obliged either to let their candles remain at a distance behind them, or, otherwise, use the Davy lamp—the Davy lamp is generally used on this occasion.

The methods of working coal mines are various, depending on the nature of the mines themselves, but more especially on the roof; there are, however, three essential points to be aimed at, the accomplishing of which depends on the skill of the manager. First—he must aim at getting as much of the mine out as possible, at the least expense, without injuring the workmen. Second—at keeping a good road free from wet and dirt, for the conveyance of the coals from all parts of the workings to the shaft. Third—at the greatest safety to the miners, from the roof and other things, but more especially from the damps or gases. He who has accomplished these deserves the name of manager. It may be thus conceived, that as the mines, and especially the roofs, vary, the methods of working and ventilating them must vary also—but all methods that have fallen under my observation bear some analogy to one another. By driving the roads double, as before described, the wagon roads may be cut with safety; but when the open, or wide working, as it is called, is commenced, it is then a little different—but these kind of workings should be so conducted as to have a current of air passing through them. The language of miners being local and various, for they call things by different names in every county, and, even in the same county, a description of the method for carrying the air through these kind of workings, without the aid of diagrams, will not be so well understood. If you can allow me the use of diagrams, I will, in a future paper, give a description of a few of the methods resorted to—at the same time point out which way accidents generally occur, leaving the subject to the skill of others for improvement.

I am, Sir, your obedient servant,

J. H. P.

[It is pleasing to find that the subject of ventilation of mines continues to excite interest, and to elicit from practical men observations which cannot be otherwise than useful, and will, we feel assured, be duly appreciated. Where the question is one so momentous, as affecting not only the interests, but the lives, of thousands of our fellow-creatures, it is gratifying to see parties thus coming forward to offer their aide towards the dissemination of knowledge on a subject so imperfectly understood. If our correspondent, "J. H. P.", will favour us with the diagrams, we shall be better able to judge whether we can render them in our columns; he may, however, rest assured that, if practicable, they shall appear, for it is our object to elucidate the subject in every way which our means will enable us.]

QUESTION OF PATENT RIGHT—USE OF ANTHRACITE IN THE MANUFACTURE OF IRON.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Your paper of the

PUBLIC COMPANIES.

MEETINGS.

BRISTOL AND EXETER RAILWAY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of this company will be held on Thursday, the 29th of the present month of October, at the Merchants' Hall, in the city of Bristol, at half past Eleven o'clock, to consider and determine whether the said company shall create and issue, and if so determined, then to create and issue, new shares, in lieu and instead of certain shares forfeited and merged in the said company, under the provisions contained in an Act of Parliament made and passed in the third year of our present Majesty, intituled, "An Act to amend and enlarge the powers and provisions of the Acts relating to the Bristol and Exeter Railway," and also to fix and determine the amount of such new shares, if created, and the price to be demanded for the same. The chair will be taken at Twelve o'clock precisely.

By order of the board of directors,
FREDERICK RICKETTS, Chairman.
J. B. BADHAM, Secretary.

Office, 30, Broad-street, Bristol, October 14.

EAST TRETOIL MINING COMPANY.—The Provisional Directors hereby give notice, that a GENERAL MEETING of shareholders in the aforesaid company will be held on Saturday, the 21st day of October instant, at the office of the company, 6, St. Mildred's-court, Poultry, London, at One o'clock in the afternoon precisely, for the purpose of electing five directors and two auditors, pursuant to the conditions and regulations of the company. Nominations of candidates for seats in the direction are required to be in writing, addressed to the secretary, at the office of the company, at least three clear days before the day of election.

BUXTON, Secretary.

REDMOOR CONSOLIDATED MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders of this company will be held at the office of the company, 44, Finsbury-square, London, on the 4th day of November next, at Two o'clock precisely, for the purpose of confirming or rejecting a resolution passed at a General Meeting of the shareholders, held at the said office on the 12th day of October instant.—That the capital of the company be increased by the sum of £1 per share, in addition to the sum of £1 per share, the original amount of each share in this company, and that the said further sum of £1 per share be paid by such instalments as the managers of the company may deem expedient, in manner as is provided by the rules and regulations of the company in respect of the original £1 shares, and that the shares of the company be subject to forfeiture in default of payment of any instalment of such increased capital, in such manner as is provided in relation to the non-payment of any instalment of the original £1 per share upon the original shares.—Notice is also hereby given, that all shares on which the eighth call shall remain unpaid on the 10th of November next will be then forfeited.

44, Finsbury-square, October 13.

THAMES HAVEN DOCK AND RAILWAY COMPANY.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of this company (as adjourned) will be held at the London Tavern, Bishopsgate-street, on Friday, the 20th instant, at Eleven for Twelve o'clock.

By order,
HENRY AMBINCK, Secretary.

28, Montague-street, October 12.

UNITED HILLS MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders of this company will be held at their office, in Adam's-court, on Thursday, the 22d day of October instant, at One o'clock precisely, for the purpose of deciding on the propriety of instituting Chancery or other proceedings against Sir Thomas Turton, for the recovery of the money held by him, as arrears of salary, or adopting such other resolutions in respect of the claim as may appear expedient. Also, by virtue of a resolution from certain shareholders, "for the purpose of removing Sir Thomas Turton, Bart., from the office of a director of this company, and appointing another director in the place of the said Sir Thomas Turton, if so removed."

JAMES SMITH, Secretary.

WHEAL WALLIS MINING COMPANY.—Notice is hereby given, that a SPECIAL MEETING of the shareholders in the above mine will be held at this office, on Thursday, the 29th of October next, at Four o'clock in the afternoon, for the purpose of taking into consideration the disposal of those shares on which the last call has not been paid.

By order of the directors,
15, St. Ann's-square, Manchester, Sept. 25.

HENRY CARR, Sec.

CALLS.

WHEAL HENNOCK AND CHRISTOWE MINING COMPANY.—Notice is hereby given, that the time allowed for the payment of the THIRD INSTALMENT OF FIVE SHILLINGS per share, on the call of £1, made the 10th day of March last, will expire on the 1st of this month (October), and unless the same be paid on or before that time the shares will be absolutely FORFEITED, for the benefit of the paid-up shareholders, without further notice.

By order of the directors,
1, Park-lane, Liverpool, October 8.

H. MOLYNEUX, Sec.

TAFF VALE RAILWAY.—CALL OF FIVE POUNDS PER SHARE.—The directors of the Taff Vale Railway Company, acting under the provisions of the act of incorporation, hereby give notice, that the proprietors of shares are required to pay, on or before the 9th day of November next, to any one of the undermentioned bankers, the sum of FIVE POUNDS on each of their respective shares:

London and Westminster Bank, London.
Montgomery and Glamorgan Bank, Cardiff.
Messrs. Ballie, Ames, and Co., Bristol.
Messrs. Wilkins and Co., Merthyr.

By order of the board of directors,
Railway Office, Cardiff, Oct. 16.

JOSEPH BALLS, Secretary.

BRISTOL AND EXETER RAILWAY.—Notice is hereby given, that the registered proprietors of shares, on which all the calls have been paid up, may RECEIVE THE INTEREST due on the 5th of October, on application at this office, on Saturdays, between the hours of Eleven and Three o'clock. The interest on shares in arrear on the last call, but on which all previous calls have been paid, will be carried to the credit of the respective proprietors, and be payable by them upon payment of the arrears. By order of the board,
Office, 30, Broad-street, Bristol, Oct. 14.

J. B. BADHAM, Sec.

CORNUBIAN MINING COMPANY.—Notice is hereby given to the holders of shares in the late Cornubian Mining Company, that the directors, in selling the materials to the public, reserved the right of joining the NEW COMPANY, upon their paying to Mr. F. Stainely, Finsbury-square, the sum of ONE POUND per share for every share in the old company, which must be given up to be cancelled with the third call paid thereon; or before the 2nd of October instant, after which date they will have no claim, under the conditions of sale, to take shares in any company that may be formed for the future working of the Cornubian Mine.

Finsbury-square, Oct. 14.

AGRICULTURAL AND GENERAL LIFE ASSURANCE COMPANY.—29, NEW BRIDGE-STREET, BLACKFRIARS, LONDON. Western Branch—28, Suffolk-place, Pall-Mall East.

ADVANTAGES OFFERED BY THIS COMPANY.

Protective securities for the benefit of the assured, not presented by any other institution.—The most economical rates of premium, consistent with safety-adapted to Europe, our East India and Colonial possessions. An increasing scale for securing loans on debts, requiring a less immediate payment for the whole term of life than usually demanded. Premiums payable annually, half-yearly, or monthly. Age admitted in the policy. Policies granted from £10 to £100. Claims payable in one month after proof of death; and £1 per cent. immediately after an insurable period thereof whenever desired. Policies effected in Ireland or Scotland recoverable in the Courts of that country. Endowments and annuities, immediate and deferred, on advantageous terms. A board of management in attendance daily. Medical men recommended for their reports.

C. F. KIRKMAN, Resident Manager.

A liberal commission allowed to solicitors and agents.

Applications for the office of agent to the institution in the different towns of the Kingdom are invited, addressed to the resident manager, at the house of the company.

PHILANTHROPIC LIFE ASSURANCE, ANNUITY, AND ENDOWMENT SOCIETY.—451, WEST STRAND.

Capital £1,000,000, in £100 shares of £10 each.

In addition to the ordinary business of Life Assurance this society propose to bring the blessings of Life Assurance within the reach of those who have hitherto been deprived of its advantages, by assuming as low as £10, and taking the premium in monthly or even weekly payments, the operative classes will be able to provide for the expenses contingent upon the uncertainty of life, and gain the benefit of independence and industry, the benefit of which will be felt by the community at large.

The society also propose to grant deferred annuities of £5, and upwards, commencing at any age named by the parties, on payment of weekly sums, thus giving the working man the advantages of a benefit society with the security afforded him by a large accumulated capital.

The society also propose to render present or future birth children on receiving a sum down, or by annual, half yearly, quarterly, monthly, or weekly payments.

Three-fourths of the profits will be divided amongst the assured, which will be either added to the policy, or be applied to the reduction of the premiums, at the option of the assured.

FOR INSURING £100 BY WEEKLY, MONTHLY, QUARTERLY, HALF-YEARLY, OR YEARLY PAYMENTS.

Age.	Week.	Month.	Quarter.	Half-year.	Year.
40	£ 1. d.	£ 1. d.	£ 1. d.	£ 1. d.	£ 1. d.
40	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.
40	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.
40	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.
40	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.
40	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.
40	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.	£ 1. 1.

When the yearly premium exceeds the weekly payments, the difference will be charged at entry, and the first week of each succeeding year, there will be £10 per week, £10 per month, £10 per quarter, £10 per half-year, £10 per year.

Deferred annuities may be assumed to commence at any age.

Immediate annuities also granted upon equitable terms.

Persons wishing to be appointed agents for this society will send their applications to the office, addressed to the manager.

THOMAS PATON, Manager.

GREAT REDUCTION IN INSURANCE ON FARMING STOCK.
THE FARMERS' AND GENERAL FIRE AND LIFE INSURANCE, LOAN, AND ANNUITY INSTITUTION.

(Empowered by Act of Parliament.)

Capital £500,000, in £100 shares of £10 each—Deposit, £1 per share.

OFFICES—No. 23, NORFOLK-STREET, STRAND.

HONORARY DIRECTORS.

(Those marked thus * are members of the Royal Agricultural Society of England.)

The following have consented to act as Honorary Directors for the respective counties attached to their names:—

The Duke of Rutland, a trustee of the Royal Agricultural Society of England—Leicestershire.

The Earl of Stratford, a governor of the Royal Agricultural Society of England—Buckinghamshire.

The Earl of Coventry—Worcestershire.

Earl Ducie, vice-president of the Royal Agricultural Society of England—Goucester.

Lord Rayleigh, a governor of the Royal Agricultural Society of England—Essex.

The Hon. C. G. Noel, M.P., a governor of the Royal Agricultural Society of England—Rutlandshire.

The Hon. H. Fitzroy, M.P.—Northamptonshire.

The Hon. Henry St. John—Wiltshire.

Sir T. R. Lethbridge, Bart.—Somersetshire West.

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SCOTLAND.

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Sir C. G. Stuart Monteath, Bart.—Dumfriesshire.

Sir George Sinclair, Bart., M.P.—Caithness.

The Hon. Charles Hope, M.P.—Lintonshire.

H. Stewart, Esq.—Wigtownshire.

M. Sprot Stewart, Esq.—Kirkcudbrightshire.

DIRECTORS.

With power to add to their numbers.

Chairman—Rogerson, Joseph, Esq., a governor of the Royal Agricultural Society of England.

Managing director—Shaw, W., Esq., a governor and member of the council of the Royal Agricultural Society of England.

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Cooper, J. R., Esq.

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Pate, William, Esq.

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Yousatt, W., Esq., a governor and member of the council of the Royal Agricultural Society of England.

Joint Solicitors—John Rogerson, Esq., and C. Boydell, Esq.

Standing Counsel—C. W. Johnson, Esq.; W. Shaw, Esq.

Medical Officers—Blackstone, J., Esq.; Bianchi, Gustavus W., Esq.

Secretary—John Hanson, Esq.

Auditors—Birnie, John, Esq.; Donaldson, John Strangeways, Esq.

Bankers—The London and Westminster Bank.

FARMING STOCK.—In order to carry out effectually the objects of the Legislature, in repealing the duty on the insurance of farming stock, and to insure, a charge of only £1, without the average clause, is made.

COMMON INSURANCE.—Private houses and shops, not hazardous, 1s. 6d. per cent. Hazardous, 2s. 6d. per cent. Doubly hazardous, subject to special agreement. Fire insurances may be effected for a longer term than one year

RAILWAY AND COMMERCIAL GAZETTE

ORIGINAL CORRESPONDENCE.

ON THE DUTY PERFORMED BY CORNISH STEAM-ENGINES.

TO THE EDITOR OF THE MINING JOURNAL.

yielding 90,548 tons of copper, the value of the ores sold being £965,795*l.*, and the average standard for that period 111*l.* 15*s.* The returns for the past ten years, ending 30th June, 1840, are then given:—Ore, 1,447,657 tons; produce in copper, 116,204 tons; amount, or value of ores raised, 8,720,698*l.*, at an average standard of 109*l.* 8*s.*—giving an increase of 313,440 tons of ore, or 25,660 tons of copper, and 1,754,490*l.* in money, being an increase, as before-mentioned, of 25 per cent. in ten years; and yet, with such increase, “Y. Z.” tells us, “that the produce of our copper mines has reached its maximum.” Such are the principal features of the first letter in reply to Mr. TREFFRY. We hope next week to be able to take up the subsequent correspondence on the part of “Y. Z.” which, although written at considerable length, contains so much of a personal nature as to divest it of general interest. We shall confine ourselves to the main points, and more especially to the statistical statements, which will be immediately followed up by Mr. TREFFRY’s reply.

It is with pleasure that we again invite attention to the communications which appear in our columns, on the important subject of the ventilation of our coal mines, which increases in interest in each succeeding Number. Although the observations made by our numerous correspondents cannot be said to embrace any novel feature, yet it is gratifying to know that they have been the means of disseminating information far and wide, and have concentrated in one focus that practical knowledge which the respective parties possess—at the same time, that the subject has been treated as one possessing claims on all whose philanthropy and sympathy for the unfortunate sufferers, and, in many instances, their bereaved families, is thus called forth.

We this week are favoured with a further communication from Mr. M. DUNN, accompanied by a diagram,* which we are glad to find is intended only as the introduction to a series of letters, which we feel assured will be perused with anxious interest, and will, we trust, elicit from others a continuation of correspondence on so vital a question. Practical observation has done much to point out the modes which may be resorted to, so as, in a great measure, to avoid the perils to which the collier is subjected, while it must be admitted, we are indebted to the scientific researches of many eminent men, for the information we possess with respect to the gases, and it is to them we are chiefly to look for the result of their labours, in offering suggestions which may be adopted by the practical miner. Mechanical means may, and will, do much to effect the object, and where care and caution is observed, where the viewer is not only competent, but is prompt in his attention to the duties which devolve on him (and what duty can be more sacred than the preservation of life?) we believe that the accidents would be comparatively few. In most cases, we find that those only who could tell the tale are the unfortunate sufferers, and it is from most imperfect evidence that any conclusions can be drawn, except that of the existence of fire-damp.

The communication of “A Workman” is a sensible letter, and boldly puts forward a fact which is disgraceful to human nature, but which, we lament to say, is, nevertheless, too true. There is not that liberality on the part of the viewers which we should expect to find characterise them. It may be the frequency of accident makes them callous, to all those feelings which render man estimable, while, we fear, there is too much truth in the saying, that they are afraid of “throwing away their bone;” and it is the more surprising to find this feeling exists equally on the part of those who have risen from the “ranks,” as with the class of agents who, to use our correspondent’s phrase, are “college bred,” and “who are sometimes found to undervalue the practical education which can only be obtained amidst years of toil in the mine.”

Another intelligent correspondent, “J. R. P.” leads us to hope that his communication will be followed by others (illustrated by diagrams) describing the various methods or plans resorted to, leaving, as he states, “the subject to the skill of others for improvement.” The thanks of the mining community at large—and more especially the working miner—are especially due to those who thus labour in so holy a cause, and who, we trust, will reap an ample reward, while we trust the result of the inquiries to which this discussion is likely to lead, will immortalise the name of him who shall discover the means of destroying, or rendering innocuous, so deadly an enemy. We shall continue to keep attention alive on the subject, and have again to impress on all who are conversant with the ventilation of mines, to lend their aid, however humble it may be, in the achievement of an object possessing so many claims.

LATEST INTELLIGENCE.

CORNWALL, OCTOBER 15.—There was no sale of copper ores this day. Average standard of sale on the 8th instant, 114*l.* 7*s.*—Produce, 8*s.*—Price, 7*s.*

MARAZION, OCTOBER 10.—The number of pumping engines reported this month is fifty-five. They have consumed 3440 tons of coal; and lifted 34,000,000 tons of water ten fathoms high. The average duty of the whole is, therefore, 55,000,000 lbs. lifted one foot high by the consumption of a bushel of coal.

PRICES OF SHARES IN BIRMINGHAM.—London and Birmingham Railway, 15*s.*; Great Western 80*s.*; Birmingham and Gloucester, 7*m.*; North Midland, 80*s.*; Manchester and Leeds (half-shares), 34*s.*; London and Brighton, 29*s.*; Birmingham and Staffordshire Gas, 7*m.*; Mid-Counties Herald.

PRICES OF SHARES IN LIVERPOOL.—Great Western Railway, 90*s.*; ditto (half-shares), 44*s.* 15*s.*; Manchester, Bolton, and Bury, 33*s.*; Eastern Counties, 8*s.* 17*s.* 6*d.*

EXPORTATION OF THE PRECIOUS METALS.—The exportation of the precious metals from the port of London to foreign ports for the week ending the 8th inst., was as follows:—Silver coin to Hamburg, 43,400 oz.; Rotterdam, 49,000 oz.; St. Petersburg, 369,000 oz.; Mexico, 59,323 oz.—Silver bars to Hamburg, 3350 oz.; Rotterdam, 3600 oz.; St. Petersburg, 20,259 oz.—Gold bars to St. Petersburg, 725 oz.—Gold coin to St. Petersburg, 1373 oz.

BANK OF ENGLAND.—QUARTERLY AVERAGE OF THE WEEKLY LIABILITIES AND ASSETS, FROM JULY 21 TO OCTOBER 13, INCLUSIVE:—

LIABILITIES.	ASSETS.
Circulation	£17,231,000
Deposits	6,762,000
	£23,993,000

Douglas-street, October 13.

* We intended Mr. Dunn’s letter for insertion in our present Number, but have been unable to get the plan engraved in time.

SIR,—I noticed in your valuable Journal of the 19th ult., a statement of the experiments tried on several engines in Cornwall, for the purpose of satisfying the deputation from the Dutch Government of the correctness of the monthly reports of duty stated to be performed by the engines in Cornwall. Of the accuracy of these experiments I have no doubt—having myself tried similar experiments, and knowing that trial made for a short period may exhibit the extraordinary results stated. I think, however, for practical purposes—for the promotion of which your Journal appears to be a most strenuous advocate—the average duty performed for twelve months would be a better criterion of the advantages to be obtained by adopting the Cornish system; at any rate, I trust the following comparative statement of the duty performed by several engines, from Sept., 1839, to August, 1840, inclusive, and the duty done in short trials, will prove interesting to some of the readers of your Journal:—

TABLE.	Variation in duty.	per cent.	
		19-8-1839	18-1-1840
	Lowest duty reported in one month.	76,982,715	75,844,339
	Greatest duty reported in one month.	81,240,397	81,038,814
	Aver. coal per hour per horse-power.	81,442,418	80,695,646
	Average duty performed during twelve months.	81,026,069	80,574,633
	Duty reported as performed starting & six hours trial.	81,215,564	81,169,412
Engine.	Diameter of cylinder.	lbs. lifted in high	lbs. lifted in high
Pooley Considine—Austin’s	60 single	71,240,069	70,935,944
Wheel Vor.—Borlase’s	2 2 2 2	79,831,941	78,395,546
Wheel Darlington	2 2 2 2	76,571,678	75,177,439
Charlestown United Mines	2 2 2 2	53,720,997	53,511
Ditto stamping engine	2 2 2 2	54,275,216	53,410
Wheel Vor.	ditto	50,085,000	50,374,633
			52,396,947
			52,000,465
			52,396,947

As regards the duty stated to be performed by the single engines, in the foregoing table, no comparison, excepting a very vague one, can be made, as the arrangement of the pumping machinery in one may, necessarily, be such as to cause more friction than in another; and thus the engine representing the greatest duty may, in fact, be inferior to that reported as doing the least: these remarks refer particularly to the pumping engines. Again, the quality of the coals is a most important matter for consideration. The coals used for the engines in Cornwall are generally Welsh coals—the best that can be obtained—while the coals used for the East London Water works engines were the refuse of Newcastle coals—after having passed through a sieve, whose meshes were not wider apart than three-fourths of an inch, and, consequently, the chief portion were very small, approximating to dust; the low price, however, renders it the most economical coal for use in London. Again, the friction of the pump-work of the East London is much less than that of any of the engines in Cornwall before quoted, and, with the same quality of coals, would, consequently, show a much greater duty. It must also be borne in mind, that, *ceteris paribus*, the duty will be less in an engine of small size than a large one—the friction being directly as the diameters, and the power as the squares of the diameters of the cylinders.

As regards the Boulton and Watt, or low-pressure engine, quoted above, it should be observed, that it generally works about one-third expansive—that about 15 per cent. of the duty is due to the introduction of those essential valves, patented by Mr. Nicholas Harvey and Mr. Wm. West; and that 25 per cent. is due to the complete cloathing of the boiler and flues, and casing of the steam-jacket, top of cylinder, nozzle, and steam-pipes, with Messrs. Borradale and Whiting’s patent felt—with the ordinary valves, and with the boiler and cylinder, &c., exposed, or not cloathed—the duty attained did not exceed 24,138,000 lbs. lifted one foot high, and the engine required 7,68 lbs. of coal per hour per horsepower.

An inspection of the table will show how little reliance is to be placed on short trials, for, in the same engine, the variation in duty, during twelve months regular work, is very great; and taking the Wheel Vor stamping engine, the duty done during the short trial was less than the average reported duty for twelve months.

The average number of engines reported by the Messrs. Leans’, during the twelve months, referred to in this letter, was equal to 5425; the coals consumed by them equal to 51,887 tons, and the average duty performed was equal to 54,875,000 lbs. lifted one foot high, while the average duty performed by the best engine was equal to 81,038,646 lbs. lifted one foot high. Now, if all the engines in Cornwall were made upon the same plan as that of the best one, the saving in coals would be very great—making an allowance for the varying diameters of the cylinders, and, for that purpose, assuming the average duty to be only 75,000,000, then, upon the fifty-four engines reported, the saving would be equal to 13,923 tons of coals annually: thus—

$$\text{Duty.} \quad \text{Tons coals.} \quad \text{Duty.} \quad \text{Tons coals.}$$

$$25,000,000 : 51,887 :: 54,875,000 : 37,964$$

$$51887 - 37964 = 13923.$$

What the saving upon the whole of the engines in the county might be, I cannot say, as, unfortunately, fifty-four only are reported; and this is much to be regretted, as there is very little doubt that the laudable rivalry excited amongst Cornish engineers, by the publication of Messrs. Leans’ “Monthly Reporter,” has done as much to place the Cornish engines in the position of superiority they now hold as any thing else—and as the value of the system adopted in the working of the best engines in Cornwall is now more generally appreciated than it was a few years back, it behoves the Cornish engineers to continue their exertions as strenuously as, if not more so than, before, that they may continue to keep their high place amongst the steam engineers of the kingdom.

I am afraid, Sir, I have made this paper too lengthy, but have engaged for some time past in a series of practical experiments, on for long periods, which I hope shortly to complete, and finding, experience, that little reliance can be placed upon trials of short duration, could not abstain from expressing my opinion upon the trials in question. After all, the average quantity of coal consumed per annum is the question that affects the proprietors’ pocket, and this should never be lost sight of, whether in Cornwall, London, or Holland. I cannot conclude, without acknowledging, through your Journal (if you will allow me), the great liberality of the Cornish engineers in always readily affording information, and to this I can bear personal testimony.

I am, Sir, your obedient servant.

Old Ford, Oct. 5.

THOS. WICKRIDGE, Civil Eng.

[We are obliged to our correspondent for his communication, and concur fully in the view taken by him; at the same time, that it affords us pleasure to avail ourselves of the opportunity of recording our testimony, in common with that gentleman’s, to the “great liberality of the Cornish engineers,” who are “one and all” ready at all times to afford information.]

ON THE BEST METHOD OF VENTILATING COAL MINES.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—As the question on the best method of ventilating coal mines is one of very great importance, I here offer a few remarks on the subject. When two shafts, or pits, are sunk down to a coal mine, and a road cut through the mine from one to the other, the air that fills this road becomes rarified from the heat of the coal and minerals surrounding—consequently, ascends one of the shafts, just like a chip of wood when immersed in water, and from the same cause—the shaft that is least in depth being that which the air generally ascends, from an obvious reason. Thus we have a process of ventilation going on, as long as the materials at the bottom remain, at a greater degree of heat than the air at the surface of the earth—which current of air is more rapid the colder the air is at the surface (a well-known fact amongst miners, that the current of air is greater in winter than summer); the fire damp, or hydrogen gas, that issues out of the fissures of the coal, or minerals either above or below the coal, gets mixed with the agitated air, and is carried up the shaft as fast as it evacuates itself, leaving the road between the shafts clear and safe. This is the principle on which ventilation is built. A fire placed at the bottom of one of these shafts would heat the surrounding materials also a considerable way up the shaft, and, as the air passed, part of it would be consumed by the fire; the other, and by far the greatest part, would become rarified by passing the fire and heated materials, so ascend rapidly up the shaft—at the same time the surrounding air would rush down the other shaft to supply its place. Thus, a fire placed at the bottom of one of the shafts is only a more powerful substitute for the natural process; it is also evident, that the bottom of the shaft is the most proper place to put a fire—and those who doubt this have only to make the experiment to be convinced.

Having thus got a current of fresh air, we have only to direct its course through the various workings to carry away the gases as they evacuate themselves; but before I describe any method for doing this, let me show how the shafts are got down, also how the road is cut between them, which is generally a troublesome piece of work to manage. Shafts may sometimes be sunk to a considerable depth without experiencing any difficulty or danger from the damps or gases, but, when these present themselves, recourse must be had to some method for removing them away. The general way in this part of the country is to partition a small segment of the shaft off by means of boards, or, otherwise, to introduce pipes, made of boards, about a foot, or a foot by sixteen inches, aperture, down the shaft, carrying the partition or pipes along with them as they proceed in sinking, till they reach the mine; this partition, or the uppermost pipe, when pipes are used, is bent at the top, and carried in an horizontal direction to a little distance from the mouth of the shaft, where a chimney is erected, and a fire kindled at the bottom of it, similar to that mentioned by Mr. “X.,” which causes a current of air to descend down the shaft and up the partition, or pipes, to the fire, then up the chimney, carrying away the damps or gases, as before described. Now, having a double road down the shaft for the ingress and egress of the air, answering for a time as two shafts, the cutting of the air or wind-road is then commenced. This road is cut double—that is, two roads are cut at the distance of about six feet from each other, and every three or four yards a cross-way is cut through between them—the pillar or coal left between serving as a partition—the air coming down the shaft going up one of these roads, turning through the opening or cross-way between them, then down the other road and up the partition, or pipes, to the fire. In this way the work proceeds till it reaches the other shaft—the miners always building one opening up as soon as they have cut another through. I may here remark, that while they are cutting the three or four yards, also the opening between, they are obliged either to let their candles remain at a distance behind them, or, otherwise, use the Davy lamp—the Davy lamp is generally used on this occasion.

The methods of working coal mines are various, depending on the nature of the mines themselves, but more especially on the roof; there are, however, three essential points to be aimed at, the accomplishing of which depends on the skill of the manager. First—he must aim at getting as much of the mine out as possible, at the least expense, without injuring the workmen. Second—at keeping a good road free from wet and dirt, for the conveyance of the coals from all parts of the workings to the shaft. Third—at the greatest safety to the miners, from the roof and other things, but more especially from the damps or gases. He who has accomplished these deserves the name of manager. It may be thus conceived, that as the mines, and especially the roofs, vary, the methods of working and ventilating them must vary also—but all methods that have fallen under my observation bear some analogy to one another. By driving the roads double, as before described, the wagon roads may be cut with safety; but when the open, or wide working, as it is called, is commenced, it is then a little different—but these kind of workings should be conducted as to have a current of air passing through them. The language of miners being local and various, for they call things by different names in every county, and, even in the same county, a description of the method for carrying the air through these kind of workings, without the aid of diagrams, will not be so well understood. If you can allow me the use of diagrams, I will, in a future paper, give a description of a few of the methods resort to—at the same time point out which way accidents generally occur, leaving the subject to the skill of others for improvement.

I remain, Sir, your obedient servant,

J. H. P.

[It is pleasing to find that the subject of ventilation of mines continues to excite interest, and to elicit from practical men observations which cannot be otherwise than useful, and will, we trust, be duly appreciated. Where the question is one so momentous, as affecting not only the interests, but the lives, of thousands of our fellow-creatures, it is gratifying to see parties thus coming forward to offer their aid towards the dissemination of knowledge on a subject so imperfectly understood. If our correspondent, “J. H. P.,” will favour us with the diagrams, we shall be better able to judge whether we can render them in our columns; he may, however, rest assured that, if practicable, they shall appear, for it is our object to illustrate the subject in every way which our means will enable us.]

QUESTION OF PATENT RIGHT—USE OF ANTHRACITE IN THE MANUFACTURE OF IRON.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Your paper of the 26th ult. did not come under my notice in time to reply to the questions you therein put to me in last week’s Journal—I now do so in as few words as possible. You say—“Will that gentleman inform us what was the opinion he entertained of the ‘genius and industry’ of Mr. Crane when he signed the requisition, some two or three years since, inviting Mr. Crane to a public dinner, to congratulate him on the success of his patent?” As to Mr. Crane’s genius, I decline giving any opinion—as to his industry, I think he deserves great praise. I think so now, just as I thought three years ago. As an anthracite proprietor I readily joined in paying him a compliment, which I considered might be fairly offered by such persons as were interested in the cause, in consideration of his perseverance in the cause, and bringing his experiments to a successful issue—but certainly not on the success of his patent. I did not then think he was entitled to a patent—neither do I now—so that my opinions are not changed, nor has any new light broken upon me from the pressure from within or without.

As to “W. M.’s” letter being a trap—with all due deference, Mr. Editor—I think it behoves you to prove it is such; and, until you do so, I do not think you will find many persons to agree in so stale a trick. If

THE MINING JOURNAL,

information to you, I will just give you a hint as to who "W." I am credibly informed he is one of a family, another of whom remained as a witness by the plaintiff, in "Crane v. Price"—*ergo*.

You also say—"And if we mistake not, that gentleman's partisanship in favour of the Neath Abbey Company was evinced by his visit to London to give evidence in the cause. If we are right in our supposition, that such was the case, we would ask that gentleman—is it even decent to appear as a controversialist in discussing the merits of a question, the legal construction of which is mainly to depend on the evidence which may be afforded by himself and other witnesses?" In the first place, you are not "right" in your supposition—consequently you must be wrong in grounding an argument upon no better foundation than what I must consider a wish of your own. I never did at any time go to London to give evidence, or ever think of such a thing—neither was I in London when the cause was tried. Moreover, I never had any communication with Mr. Price or his legal advisers, directly or indirectly, upon the subject.

I think, upon reflection, you will be candid enough to admit you "owe me an apology for the following words:—"We would ask that gentleman—is it even decent to appear as a controversialist?" &c.—founded as it is in error. But for this observation I should not have troubled you with a reply, which, under the circumstances, I am entitled to request you will insert, after which I shall be quite willing to submit to the ordeal of public opinion.

I am, Sir, your obedient servant,

W. LONG WREY.

[Mr. W. Long Wrey's letter will speak for itself, and we are not disposed further to carry on through our columns a controversy which, in the first instance, we deprecated. We thought "W. M.'s" letter uncalled for, while every body but the writer, we believe, admits that the one bearing Mr. Hooper's signature was, to say the least, impolite, and by no means creditable to him as a professional man; and, as to the long letters of Mr. Wrey, we should have been better pleased, as we have before observed, had he written more generally, and not have stooped to use expressions which aided not his cause. "He who plays bowls must expect rubbers;" and when we found our correspondent going out of his way to make a gratuitous and uncalled for attack on Mr. Crane, we felt it our duty to express the opinion we entertained. Mr. W. L. Wrey denies the supposition case on which we based our conclusions. The memory is sometimes treacherous, and that it is so in the present case is quite clear. However, we will give our author—our information was derived, not many miles from the antrachite district, some eighteen months ago, from Mr. W. Long Wrey himself. We do not pretend to recollect the words, but the substance was impressed on our memory, and the effect produced by the communication was conveyed to others. Is Mr. W. L. Wrey now satisfied?]

ON THE VENTILATION OF COAL MINES.

TO THE EDITOR OF THE MINING JOURNAL.

"Grateful as I am to that Good Being whose bounty has imparted to me this reasoning intellect, whatever it is, I hold myself proportionately indebted to him from whose enlightened understanding another ray of knowledge communicates to mine."

Sir,—As one of your numerous readers, I beg to say I am thankful to you for your several articles, and those of your talented correspondents, "On the Ventilation of Mines," which have from time to time appeared in your valuable Journal. And as you specially invite practical men to throw down the pick and wield the pen occasionally, I shall, with your leave, offer a few remarks on what has been advanced on the subject. It appears that your correspondents agree that the majority of accidents occur through the ignorance and carelessness of the men, in the absence of the "viewers" or "underlookers"—although, strange to say, the only remedy they suggest is a superior education for these agents. To remove the ignorance of the workmen, it would appear to them, is either not desirable or impossible. As to the latter—I can only say, from my own experience, in endeavouring to explain to my fellow-workmen the system of ventilation, principles of the steam-engine, and mode of getting through "troublesome ground," &c., to those who had studied science less than myself, I never, in almost a single instance, found any want of capacity (so to speak) to understand these matters; indeed, the very simplicity of the arrangement was, with them, the greatest difficulty to be got over—consequently, were they encouraged to reason and reflect on these subjects (even with the small amount of education, so called, attainable by the many), they would soon perceive that accidents were not accidents, but proceeded from fixed causes, which a little precaution could easily avert. But how stands the case in general? Do engineers and viewers endeavour to enlighten their subordinates, and workmen employed under them? Quite the contrary; they, in vulgar phrase, would be called "throwing away their bone." "Keep as many down and in the dark as possible," is the motto; and although it may cause surprise, it is no less true, that the prejudice against the diffusion of knowledge is as strong, if not more so, among those "captains" who have risen from the ranks, as among those who are "college bred," and who are sometimes found to undervalue the practical education, which can only be obtained, amidst years of toil, in the mine.

To me it appears very fine talk, indeed, for men to speak or write about "philanthropy," "humanity," "sympathy for the poor," while their views are that the "pickman's" end to live is—that he may get a living. This, I presume, is not as it ought to be—to make men better and happier, and property more safe, in every sense of the word, there must be a general diffusion of knowledge; and when men of property and intelligence become less selfish—or more so, if you please—they will see it to be their interest to encourage the improvement of the mind, and not alone look to the animal wants and necessities of those they employ.

I do not undervalue the communications of your correspondents, because they contain nothing new. I shall, however, endeavour to set them right, where, from practical experience, I conceive they are incorrect. First, then, I consider it questionable, whether a chimney stack of ordinary dimensions, at the top of the upcast, as alluded to by your correspondent "X," would be equally efficient with a furnace at the bottom, the objects being, not to "consume" the air immediately in contact with it, as another correspondent has it, but to rarefy, or make light, that portion which goes through the furnace, so that a larger volume, intermixed therewith, will more quickly ascend the "upcast shafts," and, as a matter of course, be replaced through the works by a supply of fresh air from the "downcasts." I remain, your's, respectfully,

A WORKMAN.

"A Workman," judging by his letter, is far more competent to execute the duties of "a viewer" than some viewers are to perform those of the workman. Our correspondent is perfectly correct in his observation on the jealousy existing generally on the part of the "captains," or "viewers," and the desire they manifest to keep to themselves any little knowledge they may have acquired, whether "college bred" or "risen from the ranks." We know, from personal experience, when canvassing in the county of Cornwall the merits and advantages which might be calculated upon from a "School of Mines," the determined feeling which generally pervades the agents, in opposition to any measure which may in the slightest degree tend, as our correspondent observes, to the chance of their losing "their home," which they take good care not to "throw away." We have to thank "A Workman" for his letter, and if, for the first time, we are indebted for a communication, we can only say we shall be glad to hear from him again.]

ENGLISH MINING ASSOCIATION—MR. DUNCAN CAMPBELL.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I have ever been an advocate in favour of allowing the fullest publicity to be given of the transactions of public companies, and always voted for the admission of your reporter at the public meetings of the mining companies over which I had any control. I also consider that so long as you fairly report the proceedings of such meetings you are fully entitled to do so, however they may occasionally be gratifying to the feelings of individuals. I have myself, more than once, had the honour of holding a conspicuous situation in your columns, but, as the personal attacks made upon me were not your own work, I did not feel it necessary to notice them. You have, however, travelled beyond the line of a reporter in the paragraph which you have inserted in the Journal of Saturday, the 10th inst.; and as it insinuates that I took, as director of the English Mining Association, monies to which I was not entitled, in the same way as that charged against Sir Thomas Terton, it is necessary that I should call upon you for an explanation.

I am, Sir, your obedient servant,

DUNCAN CAMPBELL.

[We are at all times anxious to be put right, where we may inadvertently fall into error, but, in the present instance, Mr. Duncan Campbell has not condescended to state the facts of the case, to which we adverted, and in which, if we remember aright, he cut so conspicuously a figure, but requires

from us "an explanation." He shall have it. We refer that gentleman, then, to the columns of the *Mining Journal* of the 18th of April last, containing a report of the proceedings at meetings of the proprietors of the English Mining Association, in which company, we believe, as in the case of the United Hills Mine, Sir Thomas Terton and Mr. Duncan Campbell were co-directors. He will there find reported the observations which fell from the several speakers who took part in the discussion, and, we can only repeat, that it does appear to our simple understanding a "something of the kind." True it is that some of the circumstances were different, but the main feature in both cases is the improper appropriation of the funds of the company—it being represented that Mr. Duncan Campbell was not a proprietor at the time of his receiving salary as a director; and some other little matters were brought under the notice of the meeting. We believe some compromise was made. If Mr. Duncan Campbell wishes further "explanation," we will look over our notes on the proceedings in the British Tin Mining Company, &c. &c.]

ON THE PRESENT MODE OF AIRING MINES.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—As you seem to invite communications on this important and vital subject, I am induced, whilst

"The high, the lofty of the earth,
Who deem us but of little worth,
And wonder why we had our birth,"

are striving to kill time, to write a few more lines for men of vision, as most of your readers are. I am neither a theoretical nor a practical miner, but I have been an adventurer in mines. I do not wish to ape the man of science, or profess to "see further into a mill-stone than the man that picks it!"—"a scribe, by trade," Mr. Editor! These remarks are made lest any of your controversial correspondents, descending on unworthy personalities, should taunt me on account of my ignorance of the terms of art, or of the soul-cramping vocabulary of science. *

The working miner is too frequently a reckless kind of being; if he can have light in his dismal caverns that will do, though the frizzing fat of his poor victims (candles) drops unburnt to the ground. He forgets, whilst he drags out a miserable existence, where

"Hot and cold, and moist and dry,
Alike contend for mastery."

and whilst he feels, like one sent to perdition before his time, that pure air is the element of man, as water is of the fish. Without it they die before nature decrees, whilst science and art become the ministers of death. Mines, manufactories, chemical laboratories, and other dens of the timed slave—the poverty scourged freeman—all more or less deprive man of his native element, whilst contractors for works, for less than it should be done, hire drivers to cry "make haste!" Let him, by all means, for the benefit of his employers as well as himself, have a bellyful of the vital aliment, that costs you nothing. You may thus save your drams of degradation, ruin, dismay, and death, which spirit men up to "borrow strength from Nature's bank only to pay it back with interest." Are not sudden heats and sudden colds enough? Is it not enough that he lies nightly shivering on his straw pallet, with little else but his wet clothes to keep him warm enough to respire, and toils for you whilst you are stretched on beds of down? Mine agents and mining adventurers have paid too little attention to the atmosphere of the miner. He lives "fast," and dies early—gallops up and down a dark and deep perpendicularity to breathe alternately the "damp" of death and the breath of life. "Knowledge and religion should remove the evils which afflict society." It is a penny wise and pound foolish economy, and the drunkard's drink, that make all parties so indifferent. But there are Christian mine agents—there are merciful adventurers—there are sober and reflecting working miners—and to them we will appeal in our next. As water poured into a glass displaces atmospheric air, so does the foul gas generated in mines, which may be emptied from glass to glass, as I have seen other gases, therefore pump the foul air out, with a double circular bellows, or other apparatus, with pipes and leaders, or the atmospheric pressure of 15 lbs. on the square inch will keep the mine full, as "Nature abhors a vacuum." The foul air to be discharged at a lower depth outside than the top of the shaft, to which a pipe may run along the ground, otherwise the heaviest air would flow down again. I remain, Sir, your obedient servant,

ALFRED T. J. MARTIN.

[Our correspondent will observe that we have taken some slight liberties with his communication, in expunging expressions which appeared to us extraneous, and involving other questions than that to which attention is more particularly directed. As other questions do not affect the other portions of his letter, we doubt not but that he will approve of the course we have adopted.]

THE TIN TRADE—QUANTITY OF TIN RAISED.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I shall feel obliged to "A Tin Miner" if he will investigate the following statement, which he has promised to do, and candidly say if he has any means of proving it incorrect. I have taken his own foundation—viz., the last official year of coinage—and which I must give him credit for, as there can be no mistake in the quantity coined, nor is there any difficulty to ascertain it correctly.

The *Mining Journal* states the number of blocks coined from June, 1837, to June, 1838, to be 30,168, which agrees with an account handed me by Messrs. Beckerley and Henwood at each quarterly coinage, and which account I have before me in their own hand writing, both as regards Wheal Vor as well as the whole quantity—Will he dispute this? The quantity of black tin sold by ticket is copied from the *Mining Journal*, and if he wish it I will give him the name of the mines from which it was sold.

30,168 blocks, at 3 cwt. 2 qr. 8 lb., is 2321 tons
Number of blocks coined by Wheal Vor 2017, at 3 cwt. 2 qr. 8 lb. 467 "

Black tin sold by ticket, 4000 tons, at 12d produce 4916 "
Leaving 2707 "

to be accounted for. I will thank "A Tin Miner" to say from what source could this arise—it can't be from any other than private sales?

After I have an answer to the above, I intend to bring forward the statement for the following year, and so on to the year ending June, 1840, as it appears from his own letter, that it is "A Tin Miner's" object to arrive at the truth, which is my particular wish also. I can assure him that the quantity of tin has increased since the last year of coinage, and is still increasing; as a proof, the quantity of black tin sold by ticket in that year was 4086 tons, and Wheal Vor adventurers coined 467 tons of white tin; now, for the year ending June, 1840, the quantity of black tin sold by ticket was 4862 tons, and Wheal Vor quantity is 680 tons of white tin—showing an increase of nearly 20 per cent. on the former, and full 45 per cent. on the latter. After this, how can he assert that the quantity is not increasing? Facts are stubborn things—honesty is the best policy—if a man commits an error it is but honesty for him to acknowledge it.

I am, Sir, your obedient servant,

THOMAS, Oct. 15. J. J.

SAFETY ROTATION RAILWAY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Having noticed in your valuable Journal of Saturday last, an abstract of a paper read by Mr. J. I. Hawkins, respecting the Safety Rotation Railway, before the British Association, at Glasgow, I take the liberty of making a few observations thereon. I am far from presuming to impugn the correctness of the calculations of an engineer of so long standing, so talented, and scientific, as Mr. H., but having made experiments, which do not exactly agree with the same, I beg leave respectfully to submit the following remarks:—

I am well aware that the calculations made by Mr. Hawkins are perfectly correct, upon the data on which the same are made, but as they do not correspond with actual experiment, a different data must be sought for, which I consider to be the following:—It is well known, that to put a body being at rest in motion, requires more power than to keep up the momentum when once the velocity is given to it (at least, until it arrives at that point where the friction and resistance of the atmosphere would be equal to the moving force); and it is also well known, that when a body at rest is put in motion with any given velocity, it would keep on for ever at the same speed, were it not for the friction and resistance of the atmosphere it meets with, so that a wheel revolving on its axis (without any other contact), when put in motion with a given velocity, requires only the friction on the axle to be overcome (besides the resistance of the atmosphere), which is very trifling when the wheel is only half a hundred weight, and the axis nicely turned, and fitted into the plumbum block, and running in oil; and I find by experiment, that it takes no more power to keep up the momentum (the hands working upon a pulley one foot in diameter only) than it does to put them in motion when acting upon the

peripheries of wheels of three feet diameter—consequently, the pulley being only one-third the size of the wheel, the hand is moving with only one-third the velocity of its periphery, and therefore requires only one-third the power to keep up the momentum, from which it may be inferred, that (taking into account the resistance of the atmosphere) one-half only of the power mentioned by Mr. Hawkins will be required to turn the mile of wheels. Mr. Hawkins, I conceive, is also calculating on erroneous data, with respect to the tractive force, because the weight would not be running on level rails (at rest), but upon wheels already in motion, to which the required velocity had been given, so that there would be a double momentum, reducing the force of traction in proportion.

By giving the foregoing remarks a place in your paper, you will much oblige,

Sir, your obedient servant,

Camberwell, Oct. 12.

THE PATENTEE.
[We are disposed to think that Mr. Hawkins, as a cautious man, adopted data on which he could speak with confidence, and, although Mr. Rangeley may be more sanguine (as patentees generally are) of the powers of his invention, yet we should be disposed to take the estimate of Mr. Hawkins, who, if he has erred, would appear to have done so on the safe side. We should be glad to learn whether the "actual experiment" referred to by Mr. Rangeley was on a working and practical scale, or only with a model, and pen and ink calculations, which are not at all times to be relied upon. As the Rotation Railway is to create a revolution in the railway system, we should be glad to learn that measures had been taken for testing its merits, by the construction of a short line. The disadvantage under which the patentee labours is, that the principle cannot be applied to the present lines, and that any experiment must, therefore, be attended with a heavy cost. We shall readily give insertion to any letters on the subject, which is one deserving of attention on the part of railway engineers and the railway public.]

AN IMPROVED PLAN OF VENTILATING MINES.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Having observed, through the medium of your valuable Journal, various letters on the ventilation of mines, and observing the sympathetic interest manifested by yourself towards the mining population, I am happy to be able to introduce to your notice an invention which has just been brought out under her Majesty's letters patent, of the greatest simplicity, but producing the effect which all your correspondents appear to consider the most important—that is, the extensive circulation of air through the mine. The invention is founded on the law of motion, and cohesion of matter—is applied at a very small expense, and, by withdrawing the foul air out of the mine, a supply of pure air from the surface of the earth takes its place, and a circulation is produced three or four times greater than by any other means yet presented to the public. It is my intention to visit the mining districts immediately.

I am, Sir, your obedient servant,

LONDON, Oct. 14.

S. CARSON, Patentee.

[Mr. Carson has promised to furnish us with a detailed statement of his invention, together with a plan, which we shall have much pleasure in submitting to our readers.]

BRITISH ASSOCIATION AND THE HAARLEM LAKE.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—At the late meeting of the British Association at Glasgow, some interest was excited in the department of mechanical science by allusions made to the draining of the Haarlem Lake in Holland, and the production of the model of a scoop proposed to be employed for that purpose.

In the statement of the proceedings as given in the public journals, a well-known engineer has expressed an opinion that the draining of this lake could be accomplished by the application of a Cornish engine of from 200 to 300 horse-power, attached to a scoop of thirty feet square, the one end of which was made to move on the centre. In the bottom of this scoop which requires to be curved, are to be several valves opening upwards on the side nearest the engine. In other words, such a scoop is to form a sort of an immense sieve fitted with valves. We are then informed that the engine of this great power, 200 to 300-horse, will be able to lift seventeen tons of water each stroke, and make seven or eight strokes a minute.

Any authentic data on so vitally important a subject as the draining of the lake of Haarlem, where more than 60,000 acres of the richest land in Holland have been for so long a period of time wholly lost to the uses of man by cultivation, cannot fail to be interesting to the general reader, while supplying valuable matter for grave reflection to every proprietor of land or agriculturist in whatever country.

And as my pursuits, as a civil engineer, have lately brought me into personal communication with the Dutch commissioners on the part of the King of Holland during their stay in London, with a view to get information on the best means of carrying out their great national project, I am enabled to state that the estimated quantity of water required to be raised for raising the lake is approaching to 800,000,000 tons, equal to about 26,500,000,000 cubic feet. A portion of this to be raised to an altitude of seven feet, a further portion fourteen feet, the residue to be discharged at a lift of sixteen feet.

To raise and carry off so immense a body of water, by water-wheels, scoops, Archimedes' screw, friction pumps, hydraulic belts, or any such machinery, would occupy an almost indefinite period of time, and prove a ruinous waste of money. The great work is, however, to be accomplished, and will supply, in its results, a wonderful addition of wealth to a most industrious people, but it requires to be set about in the best manner.

Having, as managing director of the London Patent Hydraulic Company, been called upon to direct the carrying out of works of considerable magnitude, as well as agricultural drainage, and for land irrigation, we have, on the present occasion, made a tender of our services to the Dutch Government, and undertaken to supply them with machines, which, with an effective force of steam power, shall raise 1600 tons of water per minute, or 2,304,000 tons of water per diem of twenty-four hours; and which machines, when in full work, will deliver, in an uniform flow, a stream of water, equal to a canal or river 225 feet wide by 2 ft. in. deep. This undertaking, on our part, is founded on working data. There is nothing speculative or uncertain in it. We have been delivering for some time past, in limited local drainage, twenty tons a minute, or 16,800 tons per diem of twenty-four hours, one of these on the estate of Sir Robert Sheffield, Bart., where the water has to be occasionally discharged at an altitude of eleven feet, producing a constant stream nine feet wide by fourteen inches deep, and for this we employ a 10-horse engine.

I am, Sir, your obedient servant,

JOHN BEARE, C.E.

GEOLOGICAL SPECIMENS FOUND ON THE GREAT WESTERN RAILWAY.

[FROM A CORRESPONDENT.]

During the formation of the line, there were numerous difficulties to encounter, in respect of the number of tunnels, there being no less than five, which, of course, presented a wide field for the geologist. The finest specimens of any antediluvian remains were those of an Ichthyosaurus, found in a bed of blue lias limestone, presenting the head, teeth, vertebrae, and ribs, in a most perfect state, the length being from twelve to fifteen feet. The bed of stone in which it was found was broken in half, on account of its immense thickness, for the better enabling its removal with safety. It is still in possession of the Great Western Railway Company, at Bath. Various specimens of the corals ammonia were also found of all sizes, some of very large dimensions, and others much smaller, appearing as having just come from the hands of the gilder, being covered with a mineral crustation, and generally found in a bed of wet blue marl.

Near the foundations of an old Roman villa (an account of which appeared in your Journal at the time) were discovered the tanks of an elephant, buried about twenty-five feet in a bed of gravel, which, from its appearance, could not have been removed or disturbed for centuries; and whether deposited there at the Flood, or at some later period (most likely during the earlier part of the Roman sway in this country) must remain for more experienced geologists than myself to decide. Near the same spot was discovered an old stone coffin, formed so as to contain three bodies, being built of the oolite or Bath stone, and which upon being opened presented to view a small quantity of bones.

It has often afforded me matter for wonder, that amongst the directors and shareholders of some of our leading railways, something has not been done at the different stations for the establishment of a Museum, in which a collection of all specimens found on the different works should be kept open for the benefit of the passengers and the public in general.

THE IRON TRADE.—At the ironmasters' quarterly meeting, held in this town on Thursday last, an advance of 17. per ton upon bars was confirmed. There is a brisk demand for iron generally, but more particularly for those purposes to which iron has been recently appropriated. We understand that the Scotch and Welsh houses have large orders for pig-iron for France, which, in addition to the markets usually open, will be likely to keep up prices. Some confusion was occasioned at Wolverhampton on the day previous, owing to a misunderstanding which arose between the ironmasters and the merchants and factors as to the proper day for holding the quarterly meeting. The accounts of the former were understood to have been settled during the morning, but those of the merchants and factors were deferred until yesterday, as they contended that was the usual and proper period for their settlement.—*Birmingham Advertiser*, Thursday.

THE SULPHUR TRADE.—Accounts from Palermo of the 1st of September, state that much complaint is heard of the new duty of 20 carlins per quintal for the exportation of sulphur, which prevents commercial operations. Since the abolition of the monopoly, the price of sulphur may be quoted at 18 tari first quality, 16 second, and 13 the third, per quintal; adding to the above prices the duty for exportation of 20 carlins, the price will be 38, 36, and 35 carlins the quintal. It must be observed that the tari of Sicily is of the same value as that of Naples.

THE REVENUE.—The quarterly official statement of the revenue, which was made up on Saturday, exhibits a comparative decrease upon the quarter, as compared with the corresponding quarter of 1839, of 531,067L., and a decrease upon the year of 676,585L. Of the decrease on the quarter, 284,000L. arises from the falling off of the Post Office revenue, but there is a diminution of both the Customs duties and the Excise. The diminution of the Post Office, on the year, is 839,000L., but for which there would have been an increase on the year. The decrease in the Excise is attributed to many of the Excise bills transmitted to London not falling due till after quarter day; and, not being realised, are not included in the present quarter. The deficiency of the Customs on the quarter is 113,129L., while the deficiency in the Sugar Duties is no less than 192,425L.—so that, on some other branches of the Customs, there must have been an increase of 77,296L.

STEAM NAVIGATION.—The Royal mail steam-ship *Britannia*, Lieut. Woodroffe, R.N., arrived at Liverpool at two o'clock on Thursday morning. She left Boston on the 2d instant, and Halifax at eleven o'clock on the night of the 3d, thus making the passage from Boston to Liverpool in thirteen days. The Royal mail steam-ship *Caledonia*, which sailed from Liverpool on the 19th ult., arrived at Halifax on the 30th, in ten days and a half, and proceeded for Boston. The *British Queen*, which sailed from Portsmouth on the 1st of September, arrived at New York on the morning of the 16th, having been fourteen days thirteen hours on the passage. The *Great Western*, which left Kingroad, Bristol, on the night of the 12th, reached New York on the 27th ult., the voyage having been performed under fifteen days.

THE "ORIENTAL."—This noble steam-ship (the first on the line of the accelerated East Indian mail conveyance) arrived at Liverpool on Saturday last, having made a most successful run, performing the whole distance out and home in 36½ hours less than the contract time. We learn by her log that in her outward voyage she steamed from Falmouth to Gibraltar in 12½ hours; from Gibraltar to Malta, 11½; and from Malta to Alexandria, in 9½—the whole distance (2868 nautical miles) in 13 days 12½ hours. In her homeward voyage—from Alexandria to Malta in 9½ hours; Malta to Gibraltar, 10½; Gibraltar to Falmouth, 11½—whole homeward voyage 13 days 9 hours. In this vessel (built by Messrs. Wilson and Co.) the engines are by Fawcett and Co., and the furnaces furnished with Shaw's bridges, the whole forming one of the most perfect specimens of a steam-ship that has yet been brought into service.

CANALS AND RAILROADS.—At the annual meeting of the committee of management of the Kennet and Avon Canal Navigation, lately held at Marlborough, it was stated, that the net income of the company considerably exceeded that of the preceding year, and was greater than has been produced by any year since the completion of the canal.—*Wills Independent*.—[This canal company expended large sums in strenuously opposing the Great Western Railway Act, and all its managers loudly predicted the total destruction of their property from the establishment of a railway on the same line.

ORIGIN OF JOINT-STOCK BANKS.—The *Newcastle Courant* says, that these institutions may date their rise from that town. "In 1822, a pamphlet was published at this office, which made the English public acquainted, for the first time, with the principle and merits of joint-stock banking. In consequence of the success of this pamphlet, the author was induced to leave this town, and proceed to the metropolis, to devise the proper means for giving practical effect to his views, and, by a series of efforts, finally laid the foundation of this great improvement in our monetary system."

NATIVE MINERAL PAINT.—In the process of sinking a shaft in search of coal, on the Shane's Castle estate of Earl O'Neill, in this county, a substance has been found (and of which an extensive stratum has been traced), applicable for use as a mineral paint. It occurs at a place called Dunrankin, and can be raised in large quantities ready for use, by merely grinding in oil, which it does perfectly smooth, of good body, and of a bright reddish-brown. A gentleman, to whom specimens have been submitted, states it to be an ochreous earth, two-thirds oxide of iron, and one-third alumina; that for common out-door painting, as houses, gates, and carts, it is particularly applicable, and may be used for floor and oil-cloth, paper-staining, &c., also ornamental imitations of woods, of which his lordship has a variety of tablets, prepared, which have a very good effect, as well as his coat of arms, in the style of coach paneling, which probably no nobleman or gentleman in Ireland possesses from paint raised on his own estate. With gun-water it has also been tried as a water-colour for mapping.—*Belfast Chronicle*.

DRAWS OF THE OCEAN.—In the late voyage of discovery by the French ship, the *Véone*, the sea was attempted to be sounded by the lead and line in latitude 57 deg. south, and 53 deg. 7 min. west longitude from Paris, that is a few hundred miles to the east of Drake's Islands, south-west of Cape Horn, and at a depth of 4000 metres, or 1370 yards, or near two and a half miles, no bottom was found. The weather was severe, and perfectly favourable, and it is said that the hauling in of the lead took fifty sailors upwards of two hours. In another place in the Pacific Ocean, latitude 4 deg. 32 min. north, and longitude 136 deg. 36 min. west of Paris, no bottom was found at the depth of 3790 metres.

REGULATION OF RAILWAYS.

Seymour's Act for the regulation of railways, and the protection of the public, came into operation on Saturday last. The Board of Trade are entrusted with the regulation of all railways; and no line in future, or any portion of a line, can be opened, without a month's notice in writing being given to the committee of the board, who are authorised to make all by-laws. An "inspector of railways" will be appointed, and have power to examine the works, trains, &c., used, for the safety of the public. Penalties of £20, to be recovered for an infringement of any directions of the Board of Trade. Any person wilfully obstructing any of the officers of a railway can, under this Act, be taken into custody without a warrant, and be fined any sum not exceeding 20L., and in default of payment committed to prison. The most important provision for the protection of the public is the 13th section. By this section it is enacted, that any officer or agent of a company, or any special constable duly appointed, may seize and detain without warrant any engine-driver or other servant in the employ of a company, found drunk while employed on the railway, or violating any of the bye-laws, or wilfully, maliciously, doing, or neglecting anything, whereby the life or limb of any person may be endangered; and in such cases a magistrate is authorised to fine or commit the offender, with or without hard labour, for a period not exceeding two calendar months. This clause, it is expected, will prove highly beneficial; engineers will be cautious of the responsibility they undertake, or it may induce directors to appoint scientific men to regulate the engines, and protect the public from carelessness or ignorant persons.

NEW RAILWAY TO THE NORTH.—A new line of railway is about to be submitted to the public, commencing at Broxbourne, u.on the Northern and Eastern Railway, and passing through Bedford and Market Harborough to Leicester; thence across to Tamworth by the proposed Trent Valley line, for the Liverpool, Chester, Irish, and Scotch traffic, and along the Midland Counties to Derby; and thence by the Churnet Valley for the Manchester traffic.

MIDLAND COUNTIES RAILWAY.—The directors have this week introduced new carriages, which will greatly add to the ease of railway travelling on this line. It has hitherto been a subject of complaint with passengers on almost every line of railway that the carriages rocked and jolted like stage-coaches on a bad road. By some this was supposed to be occasioned by the imperfect state of the line; by others, that the fault was with the vehicle in which they were travelling. The directors of the Midland Counties Railway, inclining to the latter supposition, have caused carriages to be made at their own manufactory, suspended by leather braces, instead of iron, for the purpose of obviating the inconvenience, and this has been found to be a decided improvement. The new carriages are painted like the old mails, and look well. The middle portion is for first-class passengers, and the other for second-class.—*Leicester Chronicle*.

PRODUCE AND BUSINESS IN THE UNITED STATES,

FOR THE YEARS

	1839.	1840.	1841.	1842.
Cotton.....	\$7,000,000	68,000,000	80,000,000	65,000,000
Bread stuffs.....	160,000,000	210,000,000	230,000,000	275,000,000
Tobacco.....	10,000,000	12,000,000	10,000,000	14,000,000
Rice.....	2,000,000	2,500,000	3,000,000	3,500,000
Other produce.....	40,000,000	45,000,000	50,000,000	40,000,000
Manufactures.....	210,000,000	200,000,000	180,000,000	170,000,000
Total.....	\$490,000,000	567,500,000	585,000,000	522,000,000
Exports.....	128,665,048	117,419,576	108,480,616	121,029,416
Imports.....	189,980,259	140,989,277	128,217,404	162,091,132
Total.....	\$318,645,275	268,408,853	222,694,209	283,120,548
Tonnage.....	1,852,102	1,896,688	1,833,607	1,987,796
				2,100,000

PURCHASES OF COPPER ORES AT REDRUTH.

OCTOBER 8.

Purchaser.	Mines.	Tons.	Total	Price.	Rock Points.	Total mines.
1. ENGLISH CO.	Cobre.....	70	21 7 0	1494 10 0	4 2 0	4 2 0
	FB Co.....	32	21 10 0	1134 10 0	4 2 0	4 2 0
	Chili.....	93	17 1 0	1622 2 0	4 2 0	4 2 0
	—	25	15 14 0	333 2 0	4 2 0	4 2 0
	Copiapo.....	44	29 9 0	899 14 0	4 2 0	4 2 0
			286			4 2 0
2. FREEMAN and CO.	Cosemen.....	46	9 7 0	439 2 0		
	Athlone.....	124	8 16 0	1011 4 0		
	—	90	9 11 0	881 15 0		
			260			2 0 0
3. GARNFELL and SONS.	Knockmahan	4 1 0	4 1 0
			116			4 1 0
4. Sims, Will., Chili	23	15 14 0	333 2 0			
Yams, Nevill, Santiago and Co.	29	21 10 0	1088 4 0			
	—	73	13 17 0	10 2 17 0		
	Cosemen.....	89	9 3 0	754 0 0		
	Tigrony.....	25	2 2 0	53 2 0		
	Cronkone.....	25	2 4 0	53 12 0		
	Laxey.....	38	2 5 0	86 9 0		
			215			3 0 0
5. VIVIAN and SONS.	Cobre.....	143	19 12 0	1891 16 0		
	—	89	12 12 0	1000 0 0		
	—	49	12 12 0	504 0 0		
	—	48	25 2 0	1284 16 0		
	Chili.....	62	18 7 0	1885 0 0		
	—	38	17 12 0	678 6 0		
	Tigrony.....	26	3 0 0	78 0 0		
	Connoree.....	40	2 19 0	118 0 0		
	Llywied.....	47	5 10 0	288 10 0		
			612			7 0 0
6. WILLIAMS, FOSTER & CO.	Cobre.....	64	21 19 0	1494 16 0		
	Knockmahan	34	9 18 0	1239 19 0		
	—	119	11 5 0	1341 14 0		
	—	100	8 13 0	875 0 0		
	—	12	8 9 0	101 14 0		
	Sanctiago.....	49	21 16 0	1868 4 0		
	Copiapo.....	100	19 11 0	1937 10 0		
	—	3	40 0 0	129 0 0		
	Lackmore	72	10 18 0	784 16 0		
	Connoree.....	8	31 11 0	84 14 0		
	Llywied.....	6	4 7 0	24 2 0		
			624			9 0 0

PURCHASES OF COPPER ORES AT SWANSEA,

OCTOBER 7.

Purchaser.	Mines.	Tons.	Total	Price.	Amount.	Total amount.
1. ENGLISH CO.	Cobre.....	70	21 7 0	1494 10 0	4 2 0	4 2 0
	FB Co.....	32	21 10 0	1134 10 0	4 2 0	4 2 0
	Chili.....	93	17 1 0	162		

PRICES OF STOCKS.

ENGLISH PUBLIC FUNDS

	Saturday	Monday	Tuesday	Wednesday	Thursday	Friday
BANK STOCKS, 7 per Cent.	160 6	160 6	160 5	160 5	160 4	160 4
8 per Cent. Red. Anns.	80 4	80 4	80 4	80 4	80 4	80 4
8 per Cent. Consols	90 7	90 7	90 7	90 7	90 7	90 7
8 per Cent. Anns.	181 6	181 6	181 6	181 6	181 6	181 6
2 per Cent. Anns.	172 6	172 6	172 6	172 6	172 6	172 6
8 per Cent. Red. Anns.	95 8	95 8	95 8	95 8	95 8	95 8
New 8 per Cent. Anns.	90 8	90 8	90 8	90 8	90 8	90 8
New 5 per Cent.	—	—	—	—	—	—
Long Anns.	186 6	186 6	186 6	186 6	186 6	186 6
Anns. for 30 Years	185 9	185 9	185 9	185 9	185 9	185 9
Ditto	186 9	186 9	186 9	186 9	186 9	186 9
India Stock, 10 per Cent.	244 6	244 6	244 6	244 6	244 6	244 6
South Sea Stock, 8 per Cent.	—	—	—	—	—	—
Ditto Old Anns. 2 per Cent.	—	—	—	—	—	—
Ditto New Anns. 5 per Cent.	—	—	—	—	—	—
8 per Cent. Anns.	175 1	175 1	175 1	175 1	175 1	175 1
India Bonds, 5 per Cent.	15 12 12	15 12 12	15 12 12	15 12 12	15 12 12	15 12 12
Exchequer Bills, £1000 21d 2 pm	2 pm	2 pm	2 pm	2 pm	2 pm	2 pm
Ditto	180 0	180 0	180 0	180 0	180 0	180 0
Ditto Small	181 1	181 1	181 1	181 1	181 1	181 1
Ditto Advertised	—	—	—	—	—	—
8 per Cent. Consols for Act. Nov. 26	87 1	87 1	87 1	87 1	87 1	87 1
Bank Stock for Op. Oct. 16	166	166	166	166	166	166
India Stock for Ac. Nov. 26	—	—	—	—	—	—

BANK OF ENGLAND.—TRANSFER BOOKS.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Bank Stock	Thursday, Sept. 3, 1840.	Friday, Oct. 16.			
8 per Cent. Reduced	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday
84 per Cent. Reduced	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday
Long Annuities	Friday	Friday	Friday	Friday	Friday
Ditto for Terms of Years	Saturday, Aug. 29	Saturday	Saturday	Saturday	Saturday
Old South Sea Stock	Friday	Friday	Friday	Friday	Friday

FOREIGN STOCKS.

	Saturday	Monday	Tuesday	Wednesday	Thursday	Friday
Andrian, 5 per Cent.	—	105	—	—	—	—
Belgian, 5 per Cent.	—	—	—	—	—	—
Brazilian	24	244	70	70 4	70 4	70 4
Ditto, 1839	—	—	—	—	—	—
Buenos Ayres, 6 per Cent.	—	—	—	—	—	—
Cuba, 6 per Cent.	—	—	—	—	—	—
Chilian, 6 per Cent.	—	—	—	—	—	—
Colombian, 6 per Cent.	—	—	—	—	—	—
Ditto, 1828, ditto	212 2	212	—	224	224	224
Danish, 3 per Cent.	73	—	—	72 3	72 3	72 3
Mexican, 5 per Cent.	25 6	26	—	26	26	26
Ditto, deferred	—	—	—	—	—	—
Ditto, 1828, 6 per Cent.	—	—	—	—	—	—
Ditto, def. do. 6 per Cent.	—	—	—	—	—	—
Ditto 5 p. Ct. Consol., 1802	—	—	—	—	—	—
Ditto Deferred	—	—	—	—	—	—
Hespolitan, 5 per Cent., 1824	—	—	—	—	—	—
Peruvian, 6 per Cent.	14	—	—	—	—	—
Portuguese, 6 per Cent.	—	—	—	—	—	—
Ditto, New 5 per Cent.	82 2	82 2	82 2	82 2	82 2	82 2
Ditto, 1837, 5 per Cent.	—	—	—	—	—	—
Ditto, 5 per Cent.	2	212 1	—	21	212 1	212 1
Russian, 1822, 5 per Cent.	106 2	212 2	212 2	212 2	212 2	212 2
Ditto, passive	—	—	—	—	—	—
Ditto, deferred	—	—	—	—	—	—
Dutch, 3 per Cent.	49 49	49 49	49 49	49 49	49 49	49 49
Ditto, 5 per Cent.	94 4	94 4	94 4	94 4	94 4	94 4
Ditto, 5 New, 1837	—	—	—	—	—	—

FRENCH FUNDS.

	PARIS	LONDON				
8 per Cent. Ann.	Oct. 8	Oct. 19				
Ex. on Lond. 1 mth.	107 280 104 110 100 110	107 280 104 110 100 110	107 280 104 110 100 110	107 280 104 110 100 110	107 280 104 110 100 110	107 280 104 110 100 110
ditto	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950
44 per Cent. Ann.	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800
4 per Cent. Ann.	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800
3 percent.	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800
Bank Shares	2600f. 2625f. 2625f.	2625f. 2625f. 2625f.				

IRISH FUNDS.

Oct. 15, 1840.

	Royal Canal Stock	Patriotic Insurance	10 0 0	72		
Government Debentures 5 per cent. per £100	171	—	—	—	—	—
Ex. on Lond. 1 mth.	—	—	—	—	—	—
ditto	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950	241 950 241 950 241 950
44 per Cent. Ann.	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800	306 800 306 800 306 800
4 per Cent. Ann.	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800	917 800 917 800 917 800
3 percent.	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800	677 800 677 800 677 800
Bank Shares	2600f. 2625f. 2625f.	2625f. 2625f. 2625f.				

AMERICAN FUNDS.

	NEW YORK	1835	1836	1837	1838	1839
1835						